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Soil Survey
of
Livingston Parish, Louisiana

By

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CONTENTS

Page

- Parish surveyed 1
- Climate 4
- Agriculture 5
- Soils and crops 9
  - Farming soils 10
    - Brownish-gray farming soils 11
      - Denham silt loam 13
      - Denham very fine sandy loam 14
      - Olivier silt loam 14
      - Olivier very fine sandy loam 15
      - Hammond very fine sandy loam 15
      - Dunbar fine sandy loam 15
      - Dunbar very fine sandy loam 16
      - Clio silt loam 16
      - Springfield silt loam 17
    - Brown farming soils 17
      - Denson silt loam 18
      - Denson clay loam 18
      - Lintonia very fine sandy loam 19
      - Lintonia silt loam 19
      - Cahaba fine sandy loam 19
      - Bienville fine sandy loam 20
      - Bienville fine sandy loam, light-colored phase 20
      - Lake Charles silty clay loam 21
    - Gray marginal farming soils 21
      - Calhoun silt loam 21
      - Calhoun silt loam, brown phase 22
      - Calhoun very fine sandy loam 22
      - Plummer very fine sandy loam 23
      - Verdun silt loam 23
  - Forestry and grazing soils 24
    - Depression soils 24
      - Frost silt loam 24
      - Portsmouth very fine sandy loam 24
    - Alluvial soils 25
      - Vicksburg silt loam 25
      - Vicksburg very fine sandy loam 25
      - Waverly silt loam 25
      - Waverly clay 26
      - Sharkey clay 26
      - Thompson loamy fine sand 26
      - River wash 26
    - Organic soils 26
      - Maurepas peat 26
      - Maurepas peat, marsh phase 27
      - Barbary muck 27
- Land classification 27
- Soils and their interpretation 28
- Summary 34
- Map.

SOIL SURVEY OF LIVINGSTON PARISH, LOUISIANA

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PARISH SURVEYED

Livingston Parish is in the central part of the eastward-projecting southern half of Louisiana (fig. 1). The southeastern corner is about 35 miles northwest of New Orleans, and the extreme western boundary is 13 miles east of Baton Rouge. The parish is irregular in shape. Amite River forms the western boundary, Natalbany River a part of the eastern boundary, and Lake Maurepas the southeastern boundary. The other boundaries are formed by land lines. The parish is about 32 miles long from north to south and 30 miles wide from east to west. It includes an area of 642 square miles, or 410,880 acres.

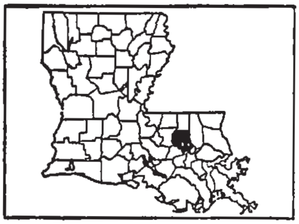

FIGURE 1.—Sketch map showing location of Livingston Parish, La.

The surface relief is predominantly flat, but the land rises almost imperceptibly from near sea level at the southern border of the parish to about 50 feet above sea level near the northern border. There are three main physiographic divisions—the low swamp lands near Lake Maurepas and along the stream bottoms, the level terracelike uplands in the northwestern part, and the undulating uplands in the northeastern part.

The area bordering Lake Maurepas is a densely wooded swamp covered with shallow water most of the year. The swamps farther up the streams to the north and west are higher and drier. In most places a distinct rise marks the borders between the swamps and the uplands. The lower uplands consist of low flat rather poorly drained pine ridges and alternate poorly drained swales, locally known as "slashes", which lie only 1 or 2 feet lower. The slashes are covered with hardwoods, palmettos, and underbrush. The relief is more pronounced near the larger streams. The higher uplands in the northeastern part of the parish have greater relief, are better drained, have a more open stand of trees, and are characterized by more sandy, more highly eluviated soil. There is a steplike rise to a higher bench near Oldfield and north of Albany. A belt of land about 5 miles wide, just east of the Amite River swamp, includes much well-drained land, and another belt just east of this belt, along Colyell Creek, includes much poorly drained land.

The larger streams have deep well-defined channels with steep banks, but the smaller streams have indefinite channels in broad swales that are covered with water after heavy rains. The whole region is very young, having been raised above the Gulf of Mexico in comparatively recent geological time,[1] and the drainage system has not had time to work back far enough to make a complete system, nor deep enough to drain areas near the small streams.

Amite River, Natalbany River, Tickfaw River, Colyell Creek, Blood River, Bayou Barbary, and Hog Branch are some of the larger streams that flow southward. Most of the streams in the northern part of the parish are shallow and have considerable current. Their banks in places are 20 or more feet high. The channels become deeper and wider and the current more sluggish toward the south, where the low benches forming the upland are just above ordinary flood level.

In the swamps in the southern part of the parish the streams become typical placid bayous, in many places 50 or more feet deep, bordered with large overhanging trees draped with streamers of Spanish-moss. Blind River, Old River, Petite Amite River, and Chene Blanc Bayou are streams that flow in an easterly direction toward Lake Maurepas.

The large areas of slashes, or shallow depressions, are covered with water to a depth of about a foot during the rainy winter season and after heavy rains. .They support a cover of mixed hardwoods, loblolly pine (*Pinus taeda*), spruce pine (*P. glabra*), and palmettos. The better drained uplands are covered with loblolly pine mixed with some oaks, gums, and other hardwoods, but the hardwoods become less abundant toward the northeastern part of the parish. Several sections northeast of Albany and a small area south of Holden are covered with longleaf pine (*P. palustris*).

The most common trees, shrubs, and vines on the silt loam uplands are loblolly pine, sweetgum, spruce pine, water oak (*Quercus nigra* and *Q. oblatusa*), pin oak, chestnut oak, red oak, beech, hornbeam, ironwood, magnolia, holly, hickory, willow oak, laurel oak, live oak, post oak, blackjack oak, ash, locust, dogwood, black gum, cedar, longleaf pine, persimmon, blackberry, sumac, elderberry, French mulberry, yaupon, grapevine, muscadine vine, and bluestem palmetto.

Beech is very common on the brown soils, the spruce pine is most plentiful on rather neutral and rather moist soils, the longleaf pine grows only on the acid more sandy soils in the northeastern part of the parish, bluestem palmetto is most plentiful on soils having calcareous subsoils, and post oak and blackjack oak are most common on soils having plastic clay subsoils. A dense cover of underbrush consisting of blackberry briers, brambles, vines, and shrubs, grows in nearly all sections and makes a growth that is hard to penetrate.

The muck and peat swamps are largely covered with tupelo gum and red cypress, together with some maple, swamp ash, willow oak, water oak, laurel oak, and some other hardwoods, and they are comparatively free from underbrush.

The most common trees, vines, and shrubs on the alluvial bottom soils and poorly drained uplands are tupelo gum, white cypress, red cypress, red gum, black gum, the oaks previously mentioned, sycamore, ash, possumhaw, huckleberry, spruce pine, mayhaw, loblolly pine, willow, blackberry, French mulberry, white oak, grapevine, muscadine vine, dewberry, palmetto, wild cherry, wild plum, wild crab apple, hackberry, and tuliptree (*Liriodendron tulipifera*).

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[1] MATSON, G. C. THE PLIOCENE CITRONELLE FORMATION OF THE GULF COASTAL PLAIN. U. S. Geol. Survey Prof. Paper 98 (L) : [167]–192, illus. 1916.

Practically no grass grows on these bottoms, but switch cane is fairly abundant.

The most common grasses in the parish are bunch grasses of the *Andropogon* genus. Considerable carpet grass grows on well-grazed areas, and lespedeza is common on all cleared areas. Broomsedge is abundant on the more acid soils. Water hyacinths are a serious pest in the navigable streams. They were introduced recently from South America and have clogged the beautiful clear deep bayous with vegetation. They have to be poisoned annually, in order that the channels may be kept open for navigation.

Livingston Parish is known as one of the Florida parishes of Louisiana, as it was a part of Florida until 1810. It was organized in its present form from St. Helena Parish in 1832. On organization of the parish, the parish seat (seat of justice) was established at Van Buren on the right bank of Tickfaw River. It was removed to Springfield in 1872, where it remained until 1875, when it was changed to Port Vincent. In 1882 the site of the present parish seat, called Centerville, or Springville, was established at a point on Tickfaw River, supposedly the exact center of the parish.

The first white settlers were French and Spanish hunters and traders who came up Amite River about 1750. Many Acadians came here about the time of their exodus from Canada. The first permanent settlements were made by the French at Denson, Maurepas, Whitehall, and other places along the bayous in the southern part of the parish, and settlements of English-speaking people were started later at Springfield, Port Vincent, and at other places in the northern part. People of Scotch, Irish, and English descent occupy most of the northern three-fourths of the parish, and a large settlement of Hungarians is southeast of Albany. Most of the early French settlers came directly from France, and others were largely Acadians from Canada (locally known as "Cajuns"). At one time a colony of Germans settled along Blind River, but most of these people moved to other parts of the parish.

According to the 1930 census, the population of the parish includes 4,147 Negroes, a few of whom have farms, but most of them are employed at logging operations or as farm laborers. More than 75 percent of the inhabitants are native-born whites. According to the Federal census reports, the population has steadily increased since 1890, and in 1930 it numbered 18,206 people, all classed as rural. The density of the population is 27.5 persons a square mile.

Lumbering has been one of the chief industries since the time of the early settlers, and fishing, trapping, and hunting have also been important sources of income. At present strawberries, corn, and beans constitute the main cash crops.

The building of the Baton Rouge, Hammond & Eastern (Illinois Central) Railroad from Hammond to Baton Rouge about 1905 started a period of exploiting the timber resources of the parish on a large scale. Previous to that time considerable timber was shipped out on boats on Amite River and some of the deep bayous.

All the main roads are good gravel and concrete highways. Part of the secondary roads are graded dirt roads, part are woods trails which are difficult to travel during the wet season, and large areas have no wagon trails of any kind. A large proportion of the farmers live near the main roads. There are very few rural telephones, but rural mail routes cover the main roads.

Most of the northern part of the parish is within 10 miles of a railway shipping point, but much of the southern part is 20 or more miles distant (by present roads) from such a shipping point. Roads in this section cross Amite River and Tickfaw River by ferries. Much timber and heavy freight is shipped from the southern part of the parish by logging railroads and by boats.

The schools are very good, most of them being consolidated schools having transportation facilities for the rural pupils.

Pure soft water can be obtained throughout the parish in shallow wells ranging from 20 to 30 feet in depth. Artesian water can be obtained at a depth ranging from 100 to 200 feet in most sections south of United States Highway 190. The water from some of the artesian wells is slightly brackish, especially around Whitehall and French Settlement, but most of it is soft, of good quality, and suitable for irrigation.

CLIMATE

The climate is characterized by short mild winters and long warm summers. Freezing weather is very infrequent during winter, and snow and ice are seldom seen. The summer heat is tempered by the Gulf breezes. The summer days may seem hot, owing to the high humidity, but the nights are pleasantly cool.

Work is carried on in the fields most of the winter and in full time after the first of February. The winters are moist, owing to long misty rains and slow evaporation. The summer season is fairly dry. At this season rains come in showers, with dry periods between. The rains are fairly well distributed, but truck crops may suffer from lack of moisture occasionally in June and July. The fall months are comparatively dry and are favorable for harvesting crops.

The average date of the last killing frost is March 9 and of the first is November 13, giving an average frost-free period of 249 days duration. Killing frosts have been recorded as early as October 24 and as late as April 4.

The mean annual temperature at Hammond is 67.5° F. The annual precipitation has ranged from 42.34 to 82.23 inches, and the mean annual precipitation is 58.47 inches.

The climatic data compiled from the records of the Weather Bureau station at Hammond, in the next parish to the east, are fairly representative of climatic conditions here. The Weather Bureau station at Baton Rouge has a record of a maximum precipitation of 86.55 inches in 1929. This indicates that a higher precipitation occasionally may be expected in the western part of the parish. Table 1 gives the more important climatic data compiled from the records of the United States Weather Bureau station at Hammond, Tangipahoa Parish.

TABLE 1.—*Normal monthly, seasonal, and annual temperature and precipitation at Hammond, Tangipahoa Parish, La.*

[Elevation, 44 feet]

Month	Temperature			Precipitation		
	Mean	Absolute maximum	Absolute minimum	Mean	Total amount for the driest year (1899)	Total amount for the wettest year (1905)
	° *F.*	° *F.*	° *F.*	*Inches*	*Inches*	*Inches*
December	52.9	84	10	4.88	3.70	7.34
January	52.4	82	14	5.03	5.17	5.93
February	54.5	85	1	5.03	3.83	9.83
Winter	53.3	85	1	14.94	12.70	23.10
March	61.2	93	22	5.45	2.20	7.32
April	67.4	92	32	4.69	2.46	7.01
May	73.8	99	42	4.11	.32	6.91
Spring	67.5	99	22	14.25	4.98	21.24
June	79.9	103	52	5.13	6.93	6.19
July	81.4	106	59	6.92	3.96	9.63
August	81.5	103	59	6.02	8.70	5.75
Summer	80.9	106	52	18.07	19.59	21.57
September	77.8	101	43	4.56	1.35	5.58
October	68.1	99	27	3.04	1.27	6.56
November	59.4	89	19	3.61	2.45	4.18
Fall	68.4	101	19	11.21	5.07	16.32
Year	67.5	106	1	58.47	42.34	82.23

AGRICULTURE

Some farming has been carried on in the southern part of the parish since the earliest settlers arrived in 1750. At first products were grown for home use, and later some were shipped by water to New Orleans. Cotton was the most important cash crop, but most of the cash income was obtained from the sale of timber and furs.

By 1880, corn, cotton, sweetpotatoes, rice, sugarcane, and oats were grown on the better drained soils along the rivers, especially along Amite River. At that time, there were 561 farms with an average size of 179 acres, of which 21 acres were improved for cultivation.

According to the Federal census report of 1930 there are 2,193 farms which have an average size of 36.5 acres, of which 13.5 acres are classed as improved land, including crop land and plowable pasture. Most fields are planted to two or more crops in succession during a season, a condition which is not brought out in the census figures. The tendency is for the farms to become smaller rather than larger and for the farmers to cultivate the cropped land more intensively.

Table 2 gives the acreage devoted to the principal crops grown, as reported by the Federal census, in the years 1879 to 1929, inclusive.

TABLE 2.—*Acreage of principal crops grown in Livingston Parish, La., in stated years*

Crop	1879	1889	1899	1909	1919	1929
	Acres	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
Corn	3, 936	3, 208	8, 936	8, 979	9, 245	7, 956
Rice	166	50	44	7	12	2
Peanuts	----------	----------	2	7	14	55
Potatoes	----------	28	53	167	336	269
Sweetpotatoes	399	221	559	794	1, 654	1, 330
Hay	86	54	325	627	834	469
Sugarcane	127	119	34	185	352	118
Sorghum cane	----------	----------	----------	----------	----------	225
Cotton	3, 876	5, 166	5. 004	6, 061	4, 147	1, 286
Strawberries	----------	----------	122	191	591	4. 471
	Trees	*Trees*	*Trees*	*Trees*	*Trees*	*Trees*
Peaches	----------	----------	1, 303	2, 617	2, 233	615
Pecans	----------	----------	50	511	673	381

A heavy growth of timber formerly covered this section of the country. The swamps were covered with hardwoods, the uplands with pine, and mixtures of hardwoods and pines occupied areas of intermediate drainage. Generally, the poorer the drainage the greater the proportion of hardwoods and, vice versa, the better the drainage the greater the proportion of pines. Nearly all the virgin timber has been cut, but an unusual amount of natural reforestation has taken place in this parish, and it is estimated that at least 70 percent of the land is now covered with a heavy growth of young timber. Some of it is being cut, and more will be ready to cut as soon as it matures. According to the census report, only about 5.3 percent of the total area of the parish was actually in cultivation in 1930, an equal amount was cleared land used for pasture, and probably from 10 to 15 percent was cut-over land.

The agriculture is of a rather highly specialized type. Strawberries are the main cash crop, followed by green beans, peppers, sweetpotatoes, other truck crops, and some cotton and sugarcane. The rest of the crops grown are produced mostly for feed and home use, and much hay and feed are shipped in. Strawberries and other truck crops have been profitable here, partly because large areas of soil are well adapted to them but more especially because this section has faster railroad service to the North than most other areas suitable for growing these crops so far south in the central part of the country. As the strawberries and truck crops are grown for the early northern markets, their value depends largely on getting them on the market in good condition and ahead of competition from the same crops grown farther north. This parish now has the advantage of a concentrated acreage and a well-organized market, allowing shipments in carload and trainload lots to the North.

In 1929 strawberries from this parish were distributed to 134 different city markets in 35 States, as well as to several points in Canada. An exceptionally good crop was produced in 1931, which sold at good prices, owing to poor strawberry crops in other parts of the South. From 85 to 95 percent of the farmers specializing in strawberries depend on credit from banks, stores, or the auctions, to carry on their business.

Strawberries were introduced into Livingston Parish about 1876, in the vicinity of Tickfaw River, from Tangipahoa Parish where they were introduced about 1861. It was not until about 1889 that they became of commercial importance in this parish. The Klondike variety, which is grown on probably 98 percent of the farms devoted to strawberries, is the most important. Fruit of this variety carries well in transit and is in demand on the northern markets. The Missionary variety is grown for its earliness, but it does not carry so well in transit as does the Klondike. The Aroma is also grown. Because competition is so great with Alabama, Arkansas, Tennessee, and North Carolina markets, it is desirable to ship the berries from this parish about April 1, in order to make the greatest profit.

Competition in strawberry growing is becoming more keen each year, as the acreage of strawberries is increasing along the Gulf region to the east. A more serious competition looms from northern berries, owing to improvements in cold-pack methods of keeping fresh strawberries. Strawberries can be grown more cheaply in the North where they require less care and less or no fertilizer.

After the strawberries have been harvested a patch of the best and most uniform plants is left to produce runner plants, and the rest of the plants are plowed under. The runner plants are cut and planted in June or July in a new field free from disease or insect infestation. In September, October, or November runner plants from these are cut and planted for the coming season's crop. Both the double-row and single-row methods of planting strawberries are used, with the hill system of culture. In the single-row method from 12,000 to 15,000 plants an acre are used, and in the double-row method the number ranges from 15,000 to 25,000 plants.

A complete fertilizer, in the proportion of 1 part nitrogen, 3 parts phosphoric acid, and 1 part potash, has been recommended by the Louisiana Agricultural Experiment Station and has proved suitable for strawberry growing in this parish. A common acre application for strawberries ranges from 1,000 to 2,000 pounds of 4-12-4[2] fertilizer. Many of the farmers top-dress this crop with nitrate of soda, at acre rates ranging from 75 to 100 pounds, when the plants have been mulched with pine straw which is usually applied around them when the first blooms appear in early spring. The use of pine straw in the strawberry industry has been a factor in protecting the pine forests from fire, owing to the value of the pine straw, or needles, in strawberry culture. Instead of burning the woods, as is common in much of the South, landowners clean out the underbrush so that the pine straw may be obtained clean and with greater ease. Strawberry growers pay the owners of the woods from 50 cents to $1 a load for the straw.

Strawberries are harvested and shipped in some seasons before March 1, although the shipping season usually runs from about March 20 until May 15, depending on weather conditions and the competing areas. Most of the strawberries grown in Livingston Parish are sold through the auction companies located at Hammond, in Tangipahoa Parish.

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[2] Percentages, respectively, of nitrogen, phosphoric acid, and potash.

Since the advent of the bollweevil in about 1909, the cotton acreage has steadily decreased until only 1,286 acres were devoted to this crop in 1929. Most of the cotton is grown in the northern part of the parish, especially on the red soils of the northwestern and the sandy soils of the northeastern parts. In the northwestern part the tendency has been to increase the acreage devoted to corn, strawberries, and truck crops. The main varieties of cotton grown are Cleveland Big Boll, Wilson Big Boll, and Misdel No. 1. Cotton is planted in late March and early April and is picked in September and October. The acreage devoted to this crop in 1929 ranked second to that in strawberries.

Corn is one of the most important field crops. From 1879 to 1929 the acreage and yield have tended to increase. Calhoun Little Red Cob, Calhoun Red Cob, Leaming, Cocke Prolific, Surcropper, Shoepeg, and some Iowa silo corn are the chief varieties of corn grown. The average acre yield is about 15 bushels, with a maximum yield of about 75 bushels.

The time for planting corn is between February 20 and March 10 for the early planting and from April to June for the late planting. Many farmers make an acre application of about 300 pounds of fertilizer before planting and follow with a side dressing of nitrate of soda. The land for corn is plowed early in February, usually twice, and a side harrow is used by most farmers as a cultivator.

Sweetpotatoes can be grown on almost any type of fairly well drained soil. They have always held a place of importance in this parish. Many different varieties are grown, but the Puerto Rico yams are the most important. The average acre yield is about 125 bushels, but in the vicinity of French Settlement yields range from 125 to 200 bushels.

Potatoes are not so important a crop as sweetpotatoes, but they are produced under about the same conditions. The chief variety is Bliss Red Triumph, and the average yield is 75 bushels an acre.

Small acreages are devoted to oats which have been grown since the time of the early settlers. Some oats are sown in September, in order that sheep and cattle may have green pasture during the winter, and on some farms the crop is plowed under as green manure. Formerly rice was grown on the upland soils. It was used chiefly in the home as an important source of food, and very little was shipped out of the parish. Hay and forage crops are not important. Sugarcane is not an important crop, and that grown is made into sirup for home use.

Market vegetables constitute an important money crop, especially green and yellow snap beans, peppers, and cucumbers. According to the 1930 Federal census report, snap beans were grown on 2,289 acres in 1929, with a total value of $169,222; peppers on 181 acres, with a total value of $26,094; and cucumbers on 41 acres, with a value of $4,974. The spring crop of snap beans is planted in the middle of March and harvested in the middle of May, and for the fall crop the beans are planted the last of August and harvested in October.

Livestock is in general of poor or only fair grade, very few if any of the animals being purebred. Most of the livestock is left to forage through the woods, and each owner brands his animals.

The cattle are of two classes. The woods cattle, which are raised for meat, are left in the woods until they are used for that purpose; and the dairy cows, which are mostly grade Jerseys, are raised with more care. Hogs are mostly of the "woods rooter" or razorback type, but many farmers have well-bred herds.

According to the 1930 Federal census, the livestock in the parish on April 1 of that year included 8,008 swine; 42,175 chickens; 8,714 cattle, most of which were beef cattle; 656 goats; 481 sheep; 1,626 horses; and 955 mules.

Most of the farmers have one or more horses or mules to use in the preparation of the soil for the crops. Small work animals are most popular. The farmer also may have 1 or 2 dairy cows, from 10 to 20 hogs, and a few chickens, and the farmers in the vicinity of Port Vincent and south of French Settlement may have in addition some sheep and goats.

Farm machinery is of a type suitable to the one-horse system of farming generally practiced in this parish. The 1930 Federal census reported 15 tractors in the parish in that year.

In 1930 owners occupied 64.2 percent, tenants 35.7 percent, and managers 0.1 percent of the farms. Of the tenant farmers, about 83 percent are share croppers, and the rest are cash tenants. Under the share system, where the crops are corn and cotton, the owner receives one-fourth of the crops as rent, and the tenant pays the expenses. On the farms devoted to strawberry growing, the owner pays all expenses and receives three-fourths of the crop.

SOILS AND CROPS

Livingston Parish consists essentially of a nearly level plain sloping gently to the south, which contains numerous poorly drained shallow depressions locally known as slashes. The better drained areas are commonly known as bench land.

There are three broad physiographic divisions characterized by predominantly different soils. The largest division is the silty bench land covering most of the western part of the parish, the second is the more sandy undulating upland in the northeastern corner, and the third consists of the swamps in the southeastern part. Narrow bodies of swamps also extend up the streams to all parts.

The silty soils are, as a rule more productive than the sandy soils, but the most important factors in crop adaptation as well as productiveness are good drainage and good soil structure associated with it. Here drainage conditions largely determine the agricultural value of the upland soils. The best drained lands are most productive—a condition which is the reverse of that in many drier regions. Much of the bench land or upland here is poorly or imperfectly drained, although in most places a distinct boundary is evident between the uplands and the lower swamps. No distinct boundary occurs between the silty upland in the western part of the parish and the more sandy upland in the northeastern part. In general, the soils become gradually more sandy toward the northeast, but in some places areas of silty and sandy soils alternate.

Differences in drainage and the character of the parent material from which the soils have been derived have caused the development of a larger number of soil types, each of which has a definite characteristic soil profile differing from any other in color, texture, and structure of the surface soil and subsoil.

In order to bring out the relationship between the different soil types and the agriculture, it is convenient to divide the soils into groups on the basis of similar crop adaptation. On an economic basis the soils fall naturally into two broad divisions, which may be termed the farming soils, and the forestry and grazing soils. They are so grouped according to present economic conditions and in the light of present knowledge. Marginal types of soil are included in both groups, and as conditions change the utilization of such types may well be changed. About 65 percent of the area of the parish is classed as farming soils and 35 percent as forestry and grazing soils. Most of the forestry and grazing soils are too wet to farm. Many areas can be drained, but the land is so flat that artificial drainage would be expensive, and some of the soils would be of low value for farm crops even though drained.

The common crops of this section of the country are grown on all types of farming soils rather indiscriminately, as the farmers plant crops according to their needs on land that is available. However, certain soil types are recognized as being better adapted to particular crops.

In the following pages, the soils of Livingston Parish are described in detail, and their agricultural relationships are discussed; their location and distribution are shown on the accompanying soil map; and their acreage and proportionate extent are given in table 3.

TABLE 3.—*Acreage and proportionate extent of the soils mapped in Livingston Parish, La.*

Type of soil	Acres	Percent	Type of soil	Acres	Percent
Denham silt loam	63,808	15.5	Calhoun silt loam, brown phase	3,456	0.9
Denham very fine sandy loam	12,736	3.1	Calhoun very fine sandy loam	33,088	8.1
Olivier silt loam	13,184	3.2	Plummer very fine sandy loam	13,184	3.2
Olivier very fine sandy loam	3,072	.7	Verdun silt loam	1,728	.4
Hammond very fine sandy loam	23,808	5.8	Frost silt loam	43,968	10.7
Dunbar fine sandy loam	6,272	1.5	Portsmouth very fine sandy loam	8,320	2.0
Dunbar very fine sandy loam	1,344	.3	Vicksburg silt loam	17,408	4.2
Clio silt loam	3,008	.7	Vicksburg very fine sandy loam	1,984	.5
Springfield silt loam	7,808	1.9	Waverly silt loam	9,728	2.4
Denson silt loam	7,872	1.9	Waverly clay	7,360	1.8
Denson clay loam	3,072	.7	Sharkey clay	8,512	2.1
Lintonia very fine sandy loam	1,728	.4	Thompson loamy fine sand	768	.2
Lintonia silt loam	448	.1	River wash	128	.1
Cahaba fine sandy loam	2,048	.5	Maurepas peat	23,296	5.7
Bienville fine sandy loam	896	.2	Maurepas peat, marsh phase	192	.1
Bienville fine sandy loam, light-colored phase	960	.2	Barbary muck	22,336	5.4
Lake Charles silty clay loam	256	.1	Total	410,880	
Calhoun silt loam	63,104	15.4			

FARMING SOILS

For convenience in discussing their present utilization the farming soils are classed in three groups. The first group includes the brownish-gray farming soils, some of which are locally known as "bench land" or "strawberry land." These soils include 32.7 percent of the parish and probably 65 percent of the cultivated land.

Probably 10 percent of these soils is cultivated. The second group may be designated as the brown farming soils, some of which are locally known as " dark-hammock " or " brown-hammock lands " and some with red subsoils as " red land." They are more productive than the soils of the first group. They cover only 4.1 percent of the parish but include about 25 percent of the cultivated land. The third group consists of gray marginal farming soils which cover 28 percent of the parish and include approximately 10 percent of the cultivated land. They are locally known as " crawfish land." About 2 percent of these soils is cultivated.

The soils of the different groups do not occur in definite belts. The largest areas of forestry soils are in the southern and central parts of the parish, the largest areas of the brownish-gray farming soils and the brown farming soils are in a belt along Amite River in the western part and along the larger streams in the northeastern part, and the largest areas of the marginal farming soils are in the central part.

BROWNISH-GRAY FARMING SOILS

The first group of farming soils, or brownish-gray farming soils, include Denham silt loam, Denham very fine sandy loam, Olivier silt loam, Olivier very fine sandy loam, Dunbar fine sandy loam, Dunbar very fine sandy loam, Hammond very fine sandy loam, Clio silt loam, and Springfield silt loam. The Denham soils constitute by far the most extensive farm lands in the parish and are the most typical soils of this group.

The group of brownish-gray farming soils includes the most representative farming soils of the parish. The acreage and average yields of the common crops are about the same as the average for the parish, except that practically no cotton is now grown and less corn and truck crops are grown than on the red and brown soils of the second group.

Strawberries are grown on about 40 percent of the cultivated area of the brownish-gray soils, and they produce an average acre yield of about 100 crates, which (at the time of this survey) brings a gross income of more than $300 an acre. The expense of growing strawberries is high. Commercial fertilizers are used at a rate ranging from 1,000 to 2,000 pounds an acre, the usual acre application being 1,500 pounds 3–10–3, 3–10–4, or 4–12–4 fertilizer which is bedded in before the strawberries are planted. This fertilizer serves as an aid in producing another crop, such as corn or sweetpotatoes. A third crop, such as fall potatoes, winter greens, oats, or Austrian peas, is often planted on the same land in the fall. These soils are particularly adapted to strawberries which prefer a moist soil but will not stand flooding. The soils have only fair drainage, but the plants are kept from drowning out by growing them on " beds " or ridges. Denham silt loam, Denham very fine sandy loam, Olivier silt loam, and Olivier very fine sandy loam are about equally well adapted to strawberries. The soils having heavy subsoils are considered less desirable. Hammond very fine sandy loam and Dunbar very fine sandy loam require somewhat more fertilizer to produce the same yields. Berries grown on the silt loam soils command a slightly higher price on the present market.

The Springfield and Dunbar soils are not in demand for strawberry soils, as the plastic clay subsoils are too close to the surface.

Corn is grown on about 45 percent of the cultivated area of the soils of this group every year. This crop occupies a higher relative acreage than strawberries, but it is of much less economic importance. The average yield of corn is about 15 bushels an acre, and the maximum yield reported is about 75 bushels. Corn is grown without fertilizer in places where it follows strawberries the same summer; elsewhere it is commonly fertilized with 300 pounds an acre of 3–10–3, 4–12–4, or a similar mixture, or with barnyard manure and between 100 and 200 pounds an acre of superphosphate. Some corn is grown on the silt loams of the group without any fertilizer. The yields of corn are higher on the more typical Denham and Olivier soils than on the areas of these soils having heavy subsoils, and they are also higher than on the Dunbar and Hammond very fine sandy loams. Very little corn is grown on the Springfield and Dunbar soils.

Clio silt loam is considered the best corn soil in the parish, but it is of small extent. This is an unleached soil, rich in lime almost to the surface. Corn yields probably average between 20 and 25 bushels an acre without fertilizer on this soil. Clio silt loam should be especially well adapted to alfalfa and sweetclover, owing to the high lime content of the subsoil. The soil would need to be inoculated and perhaps a ton of lime an acre used, in order to get the alfalfa started, as the topsoil in most places is slightly acid to a depth of 8 inches. No alfalfa is grown on this soil, as it has not been recognized as a calcareous soil. Clio silt loam, in areas where the topsoil to a depth of 8 inches is slightly acid, produces higher yields of strawberries than some of the other soils. Some areas of this soil, where the soil is alkaline in reaction to the surface, do not seem so well adapted to strawberries.

Soybeans or cowpeas are grown with most of the corn. Soybeans yield about 2 tons an acre and cowpeas 1½ tons.

Most of the sweetpotatoes produced in the parish are grown on the soils of this group, which are especially well adapted to them. The average acre yield is between 90 and 100 bushels, although the average yield is much higher on well-fertilized areas of Olivier silt loam and Denham silt loam near French Settlement, where they are grown on a commercial scale. Sweetpotatoes are fertilized at an acre rate ranging from 100 to 300 pounds of 3–10–3 fertilizer or a similar mixture. No fertilizer is used when the crop is grown following strawberries.

Potato yields average about 75 bushels an acre. Potatoes respond well to applications of stable manure and to commercial fertilizers containing a comparatively high percentage of potash, such as a 3–10–4 or 3–10–5 mixture.

String, or snap, beans, green peppers, and cucumbers are the other main truck crops ranking in importance in the order named. More of these crops are grown on the brown farming soils, but they are also grown on Olivier silt loam and on the better drained areas of Denham silt loam.

The profiles of the soils of this group differ considerably, but their most common characteristic is the presence of a number of layers, or horizons, varying greatly in thickness.

The general characteristics and sequence of the soil layers are as follows: (1) A light brownish-gray or grayish-brown thin surface layer, about 2 inches thick; (2) a pale grayish-yellow subsurface layer extending to a depth ranging from 8 to 12 inches; (3) the upper subsoil layer consisting of more or less mottled yellow and gray rather friable clay; (4) a mottled yellow and gray heavier clay layer extending from a depth of 20 to a depth of 40 inches; and (5) between depths of 40 and 60 inches more yellow and more friable material which, at a depth of about 60 inches, may be yellow calcareous clay.

Most of the soils of this group are silt loams. The Olivier, Denham, Clio, and Springfield soils are predominantly silt loams or silty very fine sandy loams, with silty clay or heavy clay subsoils and calcareous substrata at a depth ranging from less than 5 to 6 feet. The Hammond and Dunbar soils are predominantly very fine sandy loams or fine sandy loams, with friable clay or fine sandy clay subsoils. The subsoils in most places are acid to a depth of 6 feet or more. The sandy soils are mostly covered with loblolly pine and some longleaf pine, with fewer hardwoods, but the hardwoods predominate on the silt loam soils. The Springfield and Dunbar are claypan soils having plastic clay subsoils at a depth of 18 inches or less. They are not so fertile as the other soils of the group. Clio silt loam is an unusual soil type for this section, as the subsoil, at a depth below 18 inches, is yellow calcareous friable silty clay rich in lime.

All the soils of this group are level and have only fair surface drainage. The surface water runs off slowly, but the land is not covered with standing water. The Dunbar, Olivier, and Clio soils are the best drained and have the most yellow surface soils and subsoils of the members of this group. The other soils of the group have more restricted drainage, and the surface soils and subsoils are more mottled.

Denham silt loam.—Most virgin areas of Denham silt loam are covered with a very thin layer of organic litter having a maximum thickness of one-fourth inch. The surface soil is smooth brownish-gray or grayish-brown silt loam sprinkled with pale gray and rust brown in places. The surface layer is variable. It ranges in color from rich brown to light mottled brownish gray to a depth ranging from 1 to 3 inches, and it is underlain by yellow silt loam, mottled or splotched with gray, to a depth of 10 or 12 inches. Where the land is cultivated, these layers become mixed and give the material a light grayish-brown appearance. Between depths of 10 and 22 inches the subsoil is mottled yellow and gray heavy silt loam or silty clay loam, in which the yellow color predominates, although there may be some specks of rust brown and gray. This layer is abruptly underlain by mottled drab, yellow, and rust-brown rather plastic heavy clay which extends to a depth of 28 or more inches. In some places the latter layer is lacking. The heavy clay layer passes abruptly into yellow, faintly spotted with grayish yellow and greenish yellow, friable clay containing some dark-brown shot-sized concretions. The material in all these soil layers is acid, but the layer last described becomes more yellow and less acid with depth, and at a depth ranging from about 50 to 60 inches it grades into yellow friable clay containing specks of soft gray lime. The depth to the calcareous layer varies considerably, as it may occur within 20 inches of the surface or it may be 80 or more inches below in parts of the better drained areas.

This soil has fair surface drainage. The water drains off sheetlike to adjoining depressed areas, although it may stand an inch or so deep during rains.

About 15 percent of the parish is occupied by this soil which has a total area of nearly 100 square miles.

Denham silt loam was formerly covered with a mixed stand of loblolly pine, spruce pine, hardwoods, some palmettos, and underbrush. Most of it is now covered with a second-growth forest of the same varieties and with rather dense underbrush in places. About 10 percent of the land is cultivated. This is the most important strawberry soil in the parish, and about 40 percent of the cultivated land is used for the production of strawberries, the average acre yield of which is about 110 crates. Corn is grown on about 45 percent of the cultivated land, and the average acre yield is about 15 bushels. Soybeans yield from 2 to 3 tons an acre, sweetpotatoes about 85 or 90 bushels, and potatoes 65 or 70 bushels.

A number of areas, included with Denham silt loam as mapped, are marked by a heavy clay subsoil layer which occurs at a depth of about 15 inches. The topsoil is about the same as typical, and it grades sharply into mottled yellow, red, and gray heavy plastic clay at an average depth of about 15 inches. This is underlain, at a depth of about 30 inches, by yellow friable clay which becomes calcareous at a depth ranging from 45 to 55 inches. The calcareous substratum lies at less depth under this included soil.

Denham very fine sandy loam.—Denham very fine sandy loam is similar to Denham silt loam, except that it is of slightly coarser texture. The topsoil is rather silty very fine sandy loam or loam. The subsoil is heavy clay rather than stiff clay at depths between 15 and 30 inches and friable silty clay between depths of 30 and 60 inches, where it grades into calcareous friable clay. The depth to the calcareous substratum is greater than in Denham silt loam.

Olivier silt loam.—The Olivier soils are better drained than the Denham soils which they otherwise closely resemble. The essential difference in the profile of Olivier silt loam and Denham silt loam is that the Olivier soil has a yellow silt loam layer with very little mottling at depths between 3 and 10 inches. This material passes into yellow friable silt loam slightly mottled with dull red, yellow, and gray. A heavy clay layer commonly occurs between depths of 25 and 35 inches, but it may be missing. This heavy layer lies deeper than in Denham silt loam.

This soil covers an area of about 20 square miles, mainly in the western part of the parish, especially in a belt along Amite River. About 15 percent of the land is cultivated.

As is the case with Denham silt loam, areas of Olivier silt loam in the southern part of the parish have a distinctly heavy clay layer between depths of 15 and 30 inches, that is mixed yellow and gray, with considerable red mottling. This soil closely resembles Clio silt loam, but it does not have a gray subsurface layer as does the Clio soil. Such areas occur on gentle slopes and on the rims of benches. Owing to the silty surface soil and impervious subsoil, this soil erodes very readily, even on gentle slopes in virgin areas. The stiff clay subsoil is exposed in many places in cultivated areas, although very little of this phase of soil is cultivated.

Olivier very fine sandy loam.—Olivier very fine sandy loam is similar to Olivier silt loam, except in its higher proportion of very fine quartz sand throughout the soil, especially in the upper layers. The higher content of very fine sand renders the soil somewhat more workable, more readily drained, and more favorable to the production of cultivated crops. Most of the areas are small and scattered. The more important agricultural bodies occur on the terraces of Amite River in the northwestern part of the parish, in association with other soils which are farmed and are used for cultivated crops common to the parish, and for pasture.

Hammond very fine sandy loam.—Hammond very fine sandy loam, in virgin areas, has a thin dark grayish-brown very fine sandy loam surface layer about an inch thick, which is underlain by light grayish-brown or brownish-gray very fine sandy loam to a depth of 7 or more inches. The material becomes more gray with depth and contains many large specks of rust yellow and gray. This material passes abruptly into yellow friable very fine sandy clay containing light-gray mottlings and many rust-brown specks. Where the land is cultivated, these layers become mixed so as to give the soil material a dark grayish-brown color. The topsoil is moderately acid, having a pH value of about 5. Between depths of 12 and 24 or more inches the subsoil is yellow very fine sandy clay or silty clay, intricately mottled with gray and some rust yellow. This layer, in most places, is underlain by clay or clay loam of the same color to a depth of about 36 inches, where it passes into yellow, mottled with gray, fine sandy clay or friable clay. The subsoil is moderately or strongly acid (pH 4 to pH 5) to a depth of more than 5 feet, where it may become more nearly neutral. The substratum consists of stratified layers of sandy clay, clay, and fine sand.

The surface relief ranges from level to undulating, and drainage is fair, although some areas having rather poor drainage are included. Most crops are planted on beds, in order to provide drainage. This soil would be benefited by ditching.

Hammond very fine sandy loam is the most extensive soil in the northeastern part of the parish where it covers 37.2 square miles. About 8 percent of the land is cultivated.

Dunbar fine sandy loam.—Dunbar fine sandy loam consists of light grayish-brown fine sandy loam or very fine sandy loam to an average depth of 3 inches. Forested areas have a thin dark layer about one-half inch thick on the surface. Between depths of 3 and 8 inches, the material is yellow very fine sandy loam or fine sandy loam, which may contain some gray and rust-brown specks. Where cultivated, the topsoil is mixed so as to give it a light grayish-brown appearance. It is moderately acid, with a pH value between 6 and 5. The subsoil is yellow very fine sandy clay or fine sandy clay, free from mottling to a depth of about 24 inches, where it may pass into yellow friable clay containing some gray mottling and specks of rust brown. This heavier layer may be missing, or it may be more pronounced than typical. The material in this layer passes into yellow fine sandy clay or friable clay, containing fine gray mottlings, with a trace of rust brown and red. Some areas of this soil northeast of Albany have a yellow fine sandy clay subsoil between depths of 24 and 50 or more inches. The subsoil is moderately or strongly acid (pH 4.5 to pH 5.5) to a depth of 5 feet or more.

The surface relief is undulating, and surface drainage is fairly good. This soil covers 9.8 square miles, about 15 percent of which is cultivated.

Dunbar very fine sandy loam.—The 1-inch surface layer of Dunbar very fine sandy loam is dark grayish-brown very fine sandy loam or fine sandy loam. The subsurface material is light grayish-brown very fine sandy loam to a depth of 5 inches, and below that it is light-gray or pale grayish-yellow very fine sandy loam continuing to a depth of 11 or more inches. The upper subsoil layer is yellow rather heavy plastic clay with faint red and gray mottling. At a depth of 18 inches this material passes into yellow clay mottled with gray and some red, which continues to a depth of 30 inches, where it is underlain by yellow fine sandy clay containing some splotches of gray. The depth to the fine sandy clay ranges from 20 to 40 inches. Both surface soil and subsoil are in general moderately acid, but the lower part of the subsoil in places is neutral at a depth ranging from 50 to 60 inches.

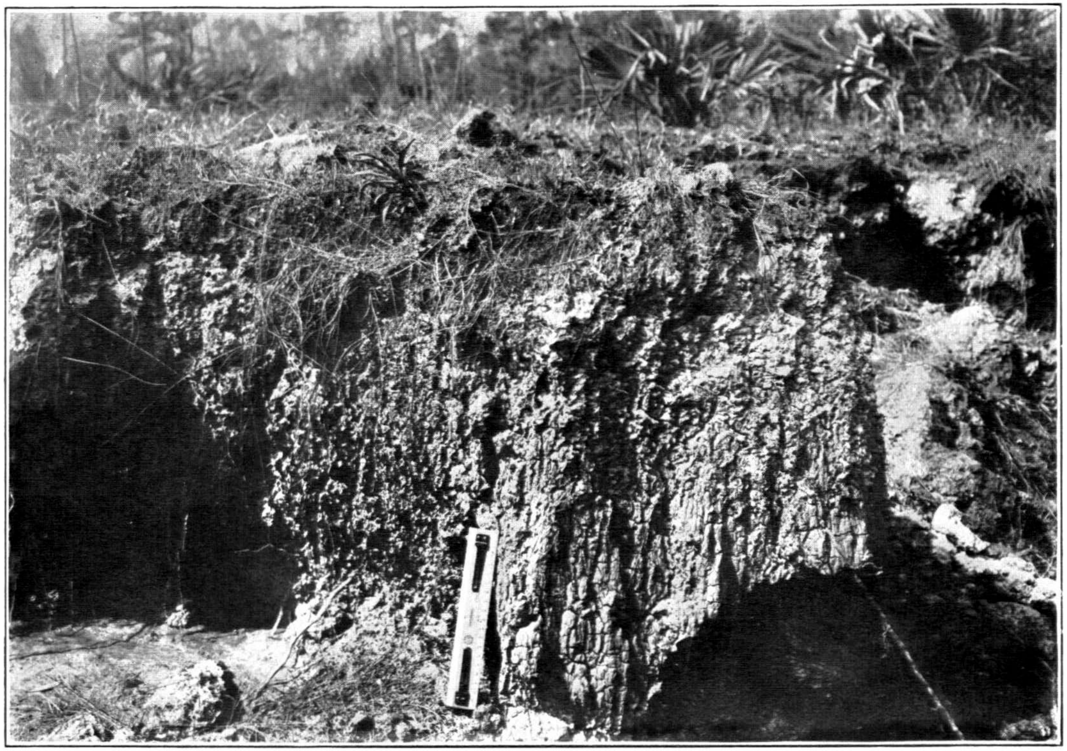
This soil is fairly well drained. Less than 1 percent of it is cultivated. Only a few small bodies are mapped, in the northeastern part of the parish, bordering areas of Hammond very fine sandy loam.

Clio silt loam.—The 2-inch surface layer of virgin Clio silt loam is smooth brownish-gray silt loam. It is underlain by grayish-yellow silt loam which extends to an average depth of 6 inches. Where cultivated, the surface soil is light brownish-gray silt loam. At a depth of 6 inches and extending to an average depth of 10 inches the material is friable yellow silty clay containing much fine gray mottling and specks of rust brown. In most places the topsoil is slightly acid (pH 6.8 to pH 5.5). Between depths of 10 and 18 inches the material is grayish-yellow heavy silt loam containing some splotches of rust brown. This layer becomes more nearly neutral with depth, and it passes into calcareous yellow silt loam or silty clay loam, with faint yellowish-brown mottling and some dark-brown splotches. It contains some soft pea-sized dark-brown ferruginous concretions. Between depths of 25 and 60 inches the material is bright-yellow silt loam or friable silty clay, with faint traces of gray and rust brown. It contains many soft greenish-gray specks of lime. Below a depth of 60 inches and extending to a depth of more than 80 inches, is a characteristic yellow friable silty clay containing many hard lime concretions about one-half inch in diameter. This clay contains sufficient lime to effervesce freely with hydrochloric acid.

The thicknesses of the different layers vary considerably. The yellow layer is near the surface in some areas, and the layer with the lime concretions may come within 24 inches of the surface in places.

The surface relief is nearly level, and the land has fairly good surface drainage. This soil is closely associated with Springfield silt loam, but it is better drained and a much more fertile soil. Clio silt loam covers 4.7 square miles, and about 15 percent of it is cultivated.

PLATE 1



PROFILE OF VERDUN SILT LOAM, AS SEEN IN A ROAD CUT, 1½ MILES NORTHWEST OF SPRINGFIELD.

Note columnar structure of subsoil, which is practically identical with that developed in the Solonetz soils of the Great Plains region and indicates that the Verdun soil, if not a true Solonetz, is at least morphologically similar.

Springfield silt loam.—Springfield silt loam is brownish-gray rather coarse silt loam to an average depth of 2 inches. At depths between 2 and 8 inches the material is pale ash-gray or light yellowish-gray coarse silt loam. This material passes very abruptly into mottled yellow, red, and gray heavy plastic clay which extends to a depth of about 24 inches, where it is underlain by yellow friable clay finely mottled with gray and rust brown or yellowish brown. This layer becomes more alkaline with depth and grades into friable yellow calcareous clay which contains some gray limy specks, a trace of gray powdery splotches, and pea-sized specks of rust brown. It has a peculiar greenish-yellow shade in places where the lime content is high, especially below a depth of 4 feet. The topsoil and the heavy clay layer range from moderately acid to strongly acid (pH 6 to pH 4).

Springfield silt loam as mapped includes some areas having yellow friable clay with some gray mottling between depths of 8 and 16 inches, just above the plastic clay layer. The soil in these areas resembles the soil in the heavy-subsoil areas of Denham silt loam.

Surface drainage of Springfield silt loam is fairly good, but underdrainage is poor. This is not a very good farming soil, owing to the shallow plastic clay subsoil which plant roots cannot easily penetrate.

The stand of timber is much more open than on other soils of this group. It consists of a rather sparse stand of pine with few hardwood trees and no underbrush or palmettos.

BROWN FARMING SOILS

The brown farming soils include Lintonia very fine sandy loam, Lintonia silt loam, Cahaba fine sandy loam, Bienville fine sandy loam, Bienville fine sandy loam, light-colored phase, Denson silt loam, Denson clay loam, and Lake Charles silty clay loam. Their total area is only 4.1 percent of the parish, and about 40 percent of them is cultivated. They include about 35 percent of the cultivated land in the parish.

The brown farming soils are recognized as the best farming soils of the parish. They are adapted to a great variety of crops and produce better yields than the brownish-gray farming soils, probably 30 percent better yields of most crops grown here, except strawberries which do just as well on the brownish-gray soils. The brown farming soils are especially well adapted to snap beans, green peppers, and other truck crops. Corn, soybeans, and cowpeas give better yields than on any of the brownish-gray soils except Clio silt loam. The approximate acre yields of crops are as follows: Corn 20 bushels, soybeans 3 or 4 tons, cowpeas 2 or 3 tons, sweetpotatoes 90 or 100 bushels, potatoes 75 bushels, and strawberries 110 crates.

Lintonia very fine sandy loam is perhaps the most valuable general-farming soil in the parish. Most of the cotton produced is grown on it, with an average acre yield of about one-third bale, although maximum yields of 1 bale or more are sometimes obtained on well-fertilized land. Some cotton is grown on the Cahaba and Bienville soils.

The brown farming soils have smooth friable topsoils of good structure and rich-brown color. Most of them are silt loam or very fine sandy loam in texture, and they are easy to cultivate. The upper subsoil layers are friable clays or fine sandy clays, ranging in color from mottled grayish yellow to yellowish red. The lower subsoil layers are heavier and more mottled at a depth ranging from about 20 to 40 inches, where they are underlain by more friable clay. These soils are only moderately acid (about pH 5.8) in the surface soil and upper part of the subsoil.

Denson silt loam.—In general the topsoil of Denson silt loam consists of rich-brown smooth silt loam to an average depth of 7 inches, beneath which is pale-yellow heavy silt with some gray mottling, continuing to an average depth of about 11 inches. A thin dark-brown layer containing much litter covers the surface in forested areas. The color of the topsoil varies from deep rich brown when moist to medium brown when dry. The thickness of the rich-brown layer ranges from 4 to 18 or more inches. The upper part of the subsoil in most places is mottled pale-yellow and gray smooth friable silty clay loam between depths of 11 and 19 inches, where it grades into bluish-gray heavy clay splotched with yellow and light gray. Many specks of rust brown, red, and limonite yellow occur in all layers of this soil. The heavy layer and topsoil are medium acid, with a pH value between 5.5 and 6. The heavy layer is underlain by mottled yellow and gray, or gray mottled with yellow, clay which becomes more nearly neutral with depth, and at a depth ranging from 5 to 6 feet passes into mottled greenish-drab or greenish-yellow friable clay containing much lime.

Denson silt loam resembles Denham silt loam, but the topsoil is thicker and of a more rich brown color, the upper subsoil layer is more gray and not quite so heavy, and the lower subsoil layer is slightly more gray. This is a more fertile soil than the Denham soil.

Most areas of Denson silt loam occur on slight elevations, and the land has fair surface drainage. Some of this soil has been covered with water from Mississippi River, coming through crevasses in the levees.

This is an inextensive soil occurring mainly in the southwestern part of the parish. The total area is 12.3 square miles, and about 25 percent of the land is cultivated.

Denson clay loam.—Denson clay loam consists of grayish-brown clay loam to an average depth of 3 or 4 inches where it passes into yellowish-gray or grayish-yellow clay loam containing some fine light-gray and limonite-yellow mottling. The color of the surface layer varies from rich brown to brownish gray. This layer extends to a depth of 10 or more inches in places and grades into yellowish-gray or grayish-yellow silty clay loam, containing rust-yellow and gray mottling and small brown specks, which continues to a depth of 18 inches. Extending from a depth of about 18 inches to a depth of 30 inches, the material is gray stiff clay containing streaks of red and some yellowish-brown mottling. This clay is underlain by grayish-yellow clay mottled with bluish gray, a trace of limonite yellow, and some brown specks. The material becomes more calcareous with depth and, at a depth ranging from 36 to 48 inches, passes into grayish-yellow or greenish-yellow friable calcareous clay containing some fine gray and rust-brown mottling. This clay has a somewhat blue shade when moist and is more yellow when dry.

In cultivated areas the topsoil is grayish brown. The surface soil and upper subsoil layer are slightly acid, averaging about pH 6. The land is fairly dry most of the summer, but it is flooded by high water after heavy rains during the winter.

This soil occurs along Amite River below the confluence of Bayou Manchac with this stream. About 15 percent of the land is cultivated. Probably 10 percent more has been cultivated in the past but is now used only for pasture, on account of flooding. This is a very fertile soil and has produced, without fertilizer, as high as 75 bushels of corn and, before the advent of the bollweevil, between 1 and 2 bales of cotton an acre. No cotton is now grown. Very little fertilizer is used. The soil is especially valuable for pasture. The average acre yield of corn is about 25 bushels when the crop is not flooded. This soil is sticky when wet and is rather hard to cultivate, compared with most soils of the parish. Its total area is 4.8 square miles.

Lintonia very fine sandy loam.—Lintonia very fine sandy loam has a 3-inch brown silty very fine sandy loam surface layer underlain by yellowish-brown or grayish-yellow rather silty very fine sandy loam which extends to an average depth of 8 inches. In wooded areas, there may be a dark rich-brown surface covering an inch thick. Where cultivated, these layers are mixed so as to give the topsoil a medium-brown color. Between depths of 8 and 14 inches the material is brownish-yellow very fine sandy loam which passes sharply into reddish-brown or yellowish-red clay that appears red when moist and yellow when dry. This soil is locally known as "red land." The material in the heavy layer is largely friable silty clay, but it ranges from heavy clay to very fine sandy clay. The lower subsoil layer is brownish-yellow or reddish-yellow very fine sandy clay or silty clay between depths of 30 and 50 inches, and pale grayish-yellow fine sandy clay or fine sand between depths of 50 and 80 inches or deeper. The material in the lower part of the subsoil is more or less stratified and varies considerably in texture.

Both the surface soil and subsoil are moderately acid (pH 5 to pH 6). Small rust-brown specks and incipient ferruginous concretions occur in the subsoil.

This soil has a fine structure and is easy to cultivate. It is permeable to water but has good water-holding capacity. Surface drainage is good. This is the most productive of the brown farming soils. It is about the best cotton and truck crop soil in the parish and is nearly equal to Clio silt loam for producing corn.

Almost 3 square miles of Lintonia very fine sandy loam are mapped, and about 80 percent of the land is cultivated.

Lintonia silt loam.—Lintonia silt loam closely resembles Lintonia very fine sandy loam, but it is slightly finer textured, with a higher percentage of silt throughout the soil profile and a smaller quantity of fine sand and very fine sand.

Less than 500 acres of this soil are mapped. About 80 percent of the land is cultivated, and its agricultural use and value are practically the same as those of Lintonia very fine sandy loam.

Cahaba fine sandy loam.—In wooded areas, the topsoil of Cahaba fine sandy loam consists of deep-brown fine sandy loam to a depth of about 2 inches and of brown fine sandy loam below this and continuing to a depth of 6 inches. The upper subsoil layer is brownish-yellow fine sandy clay to an average depth of 10 inches and is underlain by yellowish-red fine sandy clay extending to a depth of 28 inches. The lower subsoil layer, between depths of 28 and 80 inches, is yellow fine sandy clay containing some layers of fine sand. In most places, the material in the lower part of the subsoil is stratified.

All this soil. is well drained, and both surface soil and subsoil have good structure. The subsoil is permeable to moisture and has good water-holding capacity.

A few small areas included with Cahaba fine sandy loam in mapping, in the northeastern part of the parish, are lighter textured throughout than the typical soil. The surface soil in these areas is light-brown loamy fine sand to a depth of 8 inches. In many uncleared areas there is a surface covering of darker material about 1 inch thick. Between depths of 8 and 20 inches the material is yellow rather loose loamy fine sand or sand, that becomes lighter colored with depth and passes sharply into a layer of porous yellowish-red sandy clay ranging from 12 to 24 inches in thickness. The lower part of the subsoil is largely yellow sand or fine sand to a depth of 72 inches, where it passes into yellow and gray fine sandy clay. The material in the lower part of the subsoil consists largely of more or less stratified layers of sandy clay and sand. The subsoil is porous and does not retain moisture well. This included soil is not very fertile and crops suffer from drought. Very little of it is under cultivation.

Cahaba fine sandy loam occurs mostly in small areas in the northeastern part of the parish and on terraces along Amite River in the northwestern part. The total area is 3.2 square miles, about 50 percent of which is cultivated.

Bienville fine sandy loam.—Bienville fine sandy loam is rather dark brown fine sandy loam to a depth of 2 inches, where it becomes rich-brown fine sandy loam continuing to an average depth of 8 inches. This material grades into light-brown fine sandy loam that becomes lighter colored with depth and at an average depth of 14 inches is underlain by a layer of yellow fine sandy clay ranging from 12 to 24 inches in thickness. This heavier layer in many places is faintly mottled with gray and a trace of rust brown. In most areas the lower subsoil layer is mottled yellow and gray fine sandy clay with interbedded layers of yellow and gray fine sand. Both the surface soil and subsoil are moderately acid, ranging from pH 6 to pH 5.

This soil is fairly well drained but not quite so well drained as Cahaba fine sandy loam. Some areas lie just above high water. This is a fertile soil, and about 30 percent of it is cultivated. It has good structure and good water-holding capacity. Only a few small areas are mapped, most of which are northwest of Port Vincent.

Bienville fine sandy loam, light-colored phase.—The 5-inch surface layer of Bienville fine sandy loam, light-colored phase, is deep-brown rather silty very fine sandy loam, and the subsurface layer consists of yellowish-brown or pale-yellow silty very fine sandy loam extending to an average depth of 9 inches. The subsoil is yellowish-brown or pale-yellow silty clay or very fine sandy clay, which continues to an average depth of 26 inches. It may contain many rust-brown specks and some splotches of gray. The lower part of the subsoil, between depths of 26 and 48 inches, is yellow very fine sandy clay or silty clay, containing some splotches of gray. It may be underlain by calcareous friable clay extending to a depth between 5 and 6 feet. The material in the surface soil and upper part of the subsoil is slightly or medium acid, the pH value ranging from 6 to 5.5.

This soil resembles Denson silt loam, but it has a somewhat coarser surface soil and subsoil. It is more permeable and has better underdrainage. The subsoil is more yellow and contains less gray mottling.

Soil of this phase is of very small extent. It occurs in small spots in the western part of the parish.

Lake Charles silty clay loam.—The topsoil of Lake Charles silty clay loam is dark-brown or black silty clay loam when moist, and it is dark grayish brown when dry. At a depth of 10 inches it passes into more pronounced gray slightly mottled silty clay loam. Between depths of 14 and 22 inches is a layer of pale-yellow clay, finely mottled with gray and rust brown, which contains a large quantity of concretionary lime gravel. This is underlain by greenish-gray gravel-free heavy clay, mottled with pale yellow and rust brown, which extends to a depth of 40 or more inches. When dry the material in this layer becomes more friable with depth. The soil is calcareous throughout.

This is a prairie soil and supports only a few small scattered trees. It is the only natural grassland soil in the parish, except a few dark spots around old Indian mounds. Only a few small areas, covering a total of 256 acres, are mapped south and southwest of Albany.

This soil is rather poorly drained and has a high water table. None of it is cultivated at present, but it would be very productive if drained. It is especially well adapted to rice.

GRAY MARGINAL FARMING SOILS

The gray marginal farming soils are soils of low agricultural value, on account of poor drainage. This group includes Calhoun silt loam, Calhoun silt loam, brown phase, Calhoun very fine sandy loam, Plummer very fine sandy loam, and Verdun silt loam.

The marginal farming soils are for the most part covered with mixed pine and hardwoods. Probably 1 percent of their total area is cultivated, most of the cleared land being Calhoun silt loam. The Calhoun and Plummer soils produce good crops of strawberries, also fair crops of sugarcane, oats, and sweetpotatoes, where drained. Most of these soils will remain in forest or pasture for some time, as large bodies of better drained soils are available for farming. Most areas can be drained, but long canals would be needed because of the flat surface relief.

Calhoun silt loam.—To a depth of 5 inches Calhoun silt loam consists of gray silt loam containing considerable fine yellow and rust-brown mottling. Wooded areas have a thin dark rich-brown surface layer, in most places less than 1 inch thick, and in cultivated areas the topsoil is light gray. Between depths of 6 and 20 inches the material is pale-gray slightly compact silt loam with some yellow, rust-yellow, and rust-brown mottling. This material passes sharply into a 6-inch layer of dark plastic clay containing splotches of rust brown, yellow, and red. In places this soil has a more pronounced plastic clay layer, more than 12 inches thick, which is underlain by dark heavy clay mottled with yellow and rust brown. The clay becomes more friable, more yellow, and more calcareous with depth. At an average depth of about 48 inches the material grades into pale-yellow or grayish-yellow friable clay with fine mottlings of bluish gray and a trace of limonite yellow and rust brown. In places the material has a faint green or blue shade, and some dark-brown specks may be present in any part of the soil mass.

Both the surface soil and upper part of the subsoil are moderately acid, in most places ranging from pH 6 to pH 5, and the pale-gray layer is strongly acid, with a pH value as low as 4.5.

Calhoun silt loam is one of the more extensive soils of the parish. It covers 15.4 percent of the total area, or 98.6 square miles. The largest areas are north of Denham Springs, southwest of Springfield, and northwest of Livingston.

Calhoun silt loam, brown phase.—The surface layer of Calhoun silt loam, brown phase, is brown or dark-brown silt loam to a depth of 1 or 2 inches, and below this is grayish-brown silt loam extending to a depth of 6 or 8 inches. This material grades into mottled yellow and gray silt loam, and this, in turn, at a depth of about 16 inches, passes sharply into a layer of drab heavy plastic clay splotched with purple, rust brown, and yellow. More friable, more yellow clay is present at a depth of 24 inches. The material becomes more yellow and more calcareous with depth, and at an average depth of 36 inches passes into mottled gray, yellow, and rust-yellow friable calcareous clay which extends to a depth of 6 feet or deeper.

Soil of this phase differs from the typical soil in that it has a darker surface layer, a more yellow subsurface layer, contains more purplish-red material in the heavy clay layer, and has a calcareous substratum lying at less depth.

This soil resembles the brown farming soils in nearly every respect, but it is poorly drained. Its profile resembles that of Denson clay loam. Practically none of the land is farmed, but this would probably be a fertile soil if it were drained.

A total of 5.4 square miles of this soil is mapped, most of which lies south of Frost and south of Satsuma.

Calhoun very fine sandy loam.—The 3- or 4-inch surface layer of Calhoun very fine sandy loam is light-gray rather silty very fine sandy loam containing some rust-brown mottling. In many places a thin dark-colored layer about one-half inch thick is on the surface. From a depth of about 3 inches to a depth of 20 inches, the material is pale-gray rather silty very fine sandy loam containing some yellow and rust-brown mottling. This passes sharply into an 18-inch layer of drab clay splotched with yellow, some red, and rust brown, and this, in turn, is underlain by drab clay splotched with yellow, which becomes more friable and more nearly neutral with depth. At a depth ranging from 48 to 60 inches, the material grades into finely mottled grayish-yellow friable calcareous clay.

This is one of the extensive soils in the parish, covering a total area of 51.7 square miles. Large bodies lie north of Walker. Less than one-half percent of the land is cultivated.

Calhoun very fine sandy loam differs from Calhoun silt loam chiefly in being a little coarser textured, both in the surface soil and subsoil, and in general it has slightly poorer drainage.

Plummer very fine sandy loam.—Plummer very fine sandy loam is brownish-gray very fine sandy loam or fine sandy loam to a depth of 3 or 4 inches and below this is pale-gray very fine sandy loam to a depth of 6 or 8 inches. The upper subsoil layer is gray or drab very fine sandy clay containing splotches of yellow, limonite yellow, and rust brown to a depth of 28 or more inches, where it passes into drab silty clay or heavy clay having splotches of rust brown and yellow. This layer ranges from 6 to more than 24 inches in thickness. It is underlain by drabbish-gray very fine sandy clay or silty clay that becomes more yellow and more nearly neutral with depth. At a depth ranging from 60 to 80 inches this material may pass into neutral rust-yellow very fine sandy clay splotched with some gray and rust brown. The topsoil is moderately acid and the gray layer is strongly acid (pH 4.5) at a depth ranging from 10 to 20 or more inches.

This soil is wet most of the winter, and water runs off very slowly after rains. It covers 20.6 square miles, most of which is in the northeastern part of the parish. Very little of the land is farmed, but large areas of the same soil have been drained and used for growing strawberries in Tangipahoa Parish on the east. Where drained it is better suited to strawberries than to any other crop.

Verdun silt loam.—Verdun silt loam has a dark-gray silt loam surface layer an inch thick, containing much organic material. Below this is a layer of light-gray silt loam containing many rust-brown specks. At an average depth of 10 inches this material passes into sticky clay that becomes very hard when dry and has a distinct columnar structure, with broken, cylindrical, vertical columns having rounded tops. The columns are about 1 inch in diameter and 2 or 3 inches long. The insides of them are variegated yellow, limonite yellow, rust brown, and gray, with more of a dark rust-brown color toward the outsides. Some light-gray material has sifted in from above and left a thin coating of gray on the outsides of the columns. This layer is underlain by yellow clay which, at an average depth of 24 inches, is underlain by mottled yellow and gray clay containing many gray lime concretions. The zone of lime concentration is about 24 inches thick, and it is underlain by greenish-yellow calcareous clay containing some pale-gray mottling and numerous specks of limonite yellow.

Verdun silt loam is closely associated with Clio silt loam, and both soils are underlain by the same kind of calcareous material. The Verdun soil is rather poorly drained and seems to be of low agricultural value. It is not extensive and none of it is cultivated. It has an open grass cover and supports a few pines and hardwoods and a large number of palmettos. It occurs in small scattered areas mainly in the southwestern half of the parish.

FORESTRY AND GRAZING SOILS

The forestry and grazing soils include areas too wet and swampy to cultivate. They are covered with hardwoods and some spruce pine, with very few loblolly pines. The forestry soils are not mapped in accurate detail, owing to their swampy condition which makes travel over them very difficult, but the different soils pass from one to the other through very gradual, almost imperceptible, changes. These soils naturally fall into three groups—(1) depression soils, (2) alluvial soils, and (3) organic soils.

DEPRESSION SOILS

The depression soils occupy wide shallow depressions in the uplands. They are covered with shallow water during much of the wet winter season and after heavy rains in the summer. They include Frost silt loam and Portsmouth very fine sandy loam.

Frost silt loam.—The 8-inch surface soil of Frost silt loam consists of light-gray silt loam. A thin dark grayish-brown layer, ranging from 1 to 4 inches in thickness, covers the surface in many areas. The subsoil is gray or mouse-colored silty clay loam to a depth of about 18 inches, and below this is drab clay containing some splotches of light gray, limonite yellow, yellow, and rust brown, which extends to a depth of 40 or more inches. A layer of plastic clay is present in many places at a depth of about 30 inches. The lower subsoil layer is greenish-drab clay splotched with light gray and limonite yellow to a depth of 80 or more inches. Both the surface soil and upper subsoil material are acid.

Frost silt loam resembles Calhoun silt loam, but it is grayer in both the surface soil and subsoil. It is more poorly drained and is covered mostly with hardwoods rather than with mixed pine and hardwoods. Some areas resemble Waverly silt loam.

None of this soil is farmed. Much of the land can be drained, but the cost of digging the canals would be high. It would be adapted to strawberries, corn, oats, sweetpotatoes, and other crops if it were drained.

Frost silt loam is rather extensive. The largest areas are in the central part of the parish.

Portsmouth very fine sandy loam.—Portsmouth very fine sandy loam is dark grayish-brown very fine sandy loam to an average depth of 12 inches. It is very mucky and almost black in places. The upper subsoil layer is light-gray slushy fine sandy clay extending to a depth of about 40 inches. The lower subsoil layer is mottled yellow and gray fine sandy clay to a depth of 60 or more inches. Both surface soil and subsoil are strongly acid or moderately acid, ranging from pH 4 to pH 5 or higher. Some areas mapped as this soil resemble Frost silt loam.

This soil would be especially adapted to potatoes and leafy truck crops if it were drained. Much of the land can be drained, but the expense of drainage would be too high to be profitable under present economic conditions.

Portsmouth very fine sandy loam occurs in scattered bodies in the northeastern half of the parish. The total area is 13 square miles

ALLUVIAL SOILS

The alluvial soils cover the flood plains along streams. These soils are for the most part covered with water from 3 to 10 feet deep during floods after heavy rains, but they may become dry within a few days. The ground-water level fluctuates. These flood plains are still in the process of deposition and may change to some extent with every flood. They include Vicksburg silt loam, Vicksburg very fine sandy loam, Waverly silt loam, Waverly clay, Thompson loamy fine sand, Sharkey clay, and river wash.

Vicksburg silt loam.—The better drained parts of Vicksburg silt loam have a 10-inch rich-brown silt loam topsoil and a mottled yellow and gray silt loam or clay subsoil. The subsoil, as in all stream-bottom soils, is stratified and includes layers of sand, loam, and clay. This soil is hummocky, as it is cut by abandoned stream meanders. The lower, more poorly drained areas have a more gray surface soil and subsoil. Both surface soil and subsoil are moderately acid, ranging from pH 6 to pH 5.

The largest areas of Vicksburg silt loam are along Amite River and Tickfaw River. The total area is 27.2 square miles.

A number of areas of Vicksburg silt loam are better drained than typical. The topsoil of such areas is rich-brown smooth silt loam to a depth of about 4 inches and brown silt loam from 4 to 12 or more inches. The subsoil is yellow silt loam or silty clay, more or less mottled with gray. The lower part of the subsoil consists of stratified layers ranging from yellow fine sand to gray clay. Such areas occupy the higher parts of the first bottoms. They lie above normal overflow and are flooded only during extremely high water. They are used mainly for corn which returns an average acre yield, where not flooded, of about 25 bushels.

Vicksburg very fine sandy loam.—Vicksburg very fine sandy loam has a brown very fine sandy loam topsoil extending to a depth ranging from 10 to 15 inches, where it passes into brownish-yellow very fine sandy loam. The lower part of the subsoil ranges from stratified yellow fine sand to mottled gray and yellow clay. The surface relief is hummocky. Both surface soil and subsoil are moderately acid. In the more poorly drained areas both surface soil and subsoil have a more pronounced gray color.

This soil occurs in small scattered bodies, most of which lie in the northeastern half of the parish—many along the upper part of Hog Branch. The total area is small.

Waverly silt loam.—To a depth of 8 inches, Waverly silt loam consists of light-gray silt loam mottled with drab and rust brown. The subsoil is largely bluish drab or light brownish drab, with interstratified layers of mottled gray and yellow fine sand and sandy clay. Splotches of light gray, rust brown, and limonite yellow are common in the subsoil.

Both surface soil and subsoil are moderately acid, ranging from pH 5 to pH 6, but below a depth of 72 inches the material may become more nearly neutral. Both surface soil and subsoil are rather slushy and of poor structure. The land would probably be of low agricultural value even if it were drained.

This soil occurs in scattered areas in stream bottoms in all parts of the parish, but mainly southeast of Springville. The total area is 15.2 square miles.

Waverly clay.—Waverly clay consists of brownish-gray clay to an average depth of 6 inches, where it passes into bluish-gray heavy plastic clay mottled with rust brown. At a depth of about 18 inches, this material is underlain by bluish-gray heavy clay containing splotches of rust brown, that become more yellow and more calcareous with depth. At a depth ranging from 40 to 60 inches the material is an intricately mottled yellow, bluish-gray, and rust-brown calcareous clay. Both the surface soil and the upper part of the subsoil are moderately acid or strongly acid, ranging from about pH 5 to pH 5.5. Most of this soil is submerged several times during the winter but only at periods of high water.

Waverly clay would be hard to farm, owing to its heavy sticky surface soil. It cannot be drained by ditching, and a levee would be necessary to keep off flood water. It covers an area of 11.5 square miles.

Sharkey clay.—To a depth of about 6 inches, Sharkey clay, as mapped in Livingston Parish, is grayish-brown slushy clay containing a high percentage of organic material. The upper part of the subsoil is mottled brownish-drab slushy clay to a depth of about 15 inches and below this is sticky clay to a depth of about 30 inches. The lower part of the subsoil is bluish-gray clay or silty clay.

Areas of this soil along Amite River have a moderately acid surface soil and upper subsoil layer, but the lower part of the subsoil is calcareous below a depth ranging from 3 to 4 feet. Areas mapped along Tickfaw and Blood Rivers have more acid surface soils and subsoils. The land is covered with water all winter and is wet much of the summer. Slightly more than 13 square miles are mapped.

Thompson loamy fine sand.—Thompson loamy fine sand has a brownish-yellow loamy fine sand topsoil about 3 inches thick. The subsoil ranges from stratified yellow loamy fine sand to incoherent gray or white sand. This soil occurs in only a few small areas along streams with a high gradient. The areas are overflowed at high water, and the material is subject to reworking and redeposition by flood waters.

River wash.—River wash consists of gray or pale yellowish-gray sand and gravel along Amite River. It is used for commercial sand and gravel.

ORGANIC SOILS

The organic soils are wet soft slushy soils derived largely from organic material. They include Maurepas peat, Maurepas peat, marsh phase, and Barbary muck.

Maurepas peat.—Maurepas peat is a slushy finely disintegrated peat containing very little mineral material to a depth of 24 inches, below which it contains more mineral material and is slightly grayer. It contains many roots and much partly decayed woody material. The underlying material is grayish-brown silty muck with a high mineral content, extending to a depth of 48 or more inches, where it passes into dark-drab clay.

Maurepas peat appears to be a woody peat largely derived from cypress. Its soft slushy character makes it hard to walk over. Roots of tupelo gum trees and cypress knees extend above the shallow water, and many fallen rotting logs are scattered over the surface.

This land is covered with water most of the year. It is on the level of Lake Maurepas, and the water level is affected by wind tides as well as river flood waters. It occurs in Maurepas Swamp and in other places in the southern part of the parish.

Most of the cypress has been cut, but the land still supports a heavy growth of tupelo gum, some black gum, and other hardwoods. The peat swamps support a great variety of wild life. Each square mile returns about $1,000 in furs in seasons when prices are good. Large numbers of raccoons, muskrats, and minks, and some deer and otters are killed here. Large numbers of bullfrogs and turtles are caught.

Maurepas peat, marsh phase.—The marsh phase of Maurepas peat includes areas of peat covered with grass and sedges instead of trees, and also includes small spots of open water. The trees and much of the peat apparently have been burned off some of these open marsh areas. Large numbers of muskrats are trapped each year on the open marsh.

Barbary muck.—Barbary muck is dark-brown, well-disintegrated peaty muck to an average depth of about 12 inches, where it is underlain by dark-brown or dark-drab mucky clay. The surface muck layer ranges from a few inches to more than 3 feet in depth. It contains many roots and partly decayed woody material. Alternate layers of peat and mineral soil occur in many places in the lower part of the subsoil.

This muck grades imperceptibly into Maurepas peat to the east and into Sharkey clay to the west. It covers a total area of 34.9 square miles in the southern part of the parish. The largest bodies lie along the lower parts of Amite River, Bayou Barbary, and Tickfaw River.

LAND CLASSIFICATION

In table 4 is set forth a broad grouping of the soils according to their agricultural potentialities in Livingston Parish, showing the present (1931) agricultural conditions, utilization, approximate area, and extent of occupation. These classes are relative as applied to this parish, and the land is not compared with the best Mississippi alluvial land or northern prairie land.

TABLE 4.—*Grouping of soils in Livingston Parish, La., according to potentialities for agriculture*

Class and soil type	Approximate area *Square miles*	Description	Present condition and use
A. Lintonia very fine sandy loam, Lintonia silt loam, Clio silt loam, Denson silt loam, Cahaba fine sandy loam, and Bienville fine sandy loam.	25	Moderately productive soils with fairly good drainage, suitable for truck crops, corn, soybeans, and cowpeas. Adapted to strawberries. The sandy members are suitable for cotton, and Clio silt loam is probably suitable for alfalfa.	About 25 percent under cultivation and the rest covered with a young stand of loblolly pine, beech, oaks, gums, and other hardwood trees.
B. Denham silt loam, Denham very fine sandy loam, Olivier silt loam, Olivier very fine sandy loam, Hammond very fine sandy loam, Dunbar very fine sandy loam, and Dunbar fine sandy loam.	190	Moderately productive soils, well adapted to strawberries and fairly well adapted to truck crops, corn, soybeans, and cowpeas.	About 10 percent under cultivation and the rest covered with loblolly pine, oaks, gums, and other hardwoods.
C. Springfield silt loam.	12	Slightly less productive than class B soils. This soil has a heavy claypan subsoil that makes it less desirable for farming.	About 2 percent cultivated and the rest covered with an open growth of loblolly pine and hardwoods, including much blackjack oak and post oak.
D. Denson clay loam and Lake Charles silty clay loam.	5	Productive soils of limited drainage. Suitable for corn and oats when drained. Lake Charles silty clay loam good rice land if irrigated.	About 15 percent of Denson clay loam is cultivated, and the rest is covered with hardwood trees and pasture. Lake Charles silty clay loam is all natural prairie land.
E. Calhoun silt loam, Calhoun very fine sandy loam, Verdun silt loam, and Plummer very fine sandy loam.	180	Marginal farming soils, low agricultural value, owing to poor drainage. Suitable for strawberries if drained, also for corn, oats, soybeans, cowpeas, and other crops.	About 2 percent cultivated, pine on Plummer soils, hardwoods and pine on Calhoun soils.
F. Frost silt loam and Portsmouth very fine sandy loam.	80	Upland depression soils, unsuitable for cultivation, owing to poor drainage. Fairly productive if drained, but drainage would be costly and unprofitable under present economic conditions.	Second-growth hardwood, loblolly pine, and spruce pine. None cultivated.
G. Waverly silt loam, Waverly clay, Sharkey clay, Vicksburg silt loam, Vicksburg very fine sandy loam, Thompson loamy fine sand, and river wash.	75	First-bottom mineral soils, for the most part deeply submerged by flood waters. Land is of low agricultural value. Impractical to drain, although some of the Vicksburg soils would be productive if drained.	Covered with second-growth red gum, black gum, tupelo gum, white oak, red oak, hornbeam, beech, spruce pine, sycamore, ash, and cypress. None of the land cultivated.
H. Maurepas peat and Barbary muck.	70	Organic soils which are submerged most of the year.	Originally covered with cypress, tupelo gum, and some other hardwoods. Most of the cypress has been cut.

SOILS AND THEIR INTERPRETATION

The five important factors that determine the development and distribution of the soils in any region are (1) native vegetation, (2) climate, (3) relief, including drainage, (4) parent material, and (5) age, or the length of time these agencies have acted.

Livingston Parish is in that section of the United States where the Red and Yellow soils predominate. The Red and Yellow soils, in the broad category of the soils of the world, occupy regions having a warm humid climate, where the soils remain moist and unfrozen during the winter. Owing to the extreme geological youth of this section, the calcareous character of the parent material, and the more or less restricted drainage, only a small part of the soils of the parish have developed the profile characteristics of mature Red and Yellow soils. All the soils are comparatively young, and the soil types, to a great extent, are soils in different stages of soil development.

Livingston Parish is in a flat river and coastal-terrace area. The soil materials are geologically younger than those of the rolling coastal plain to the north and older than the Mississippi alluvium to the west. In the western part of the parish, the parent material from which the soils have been derived consists largely of stratified layers of calcareous clay and some sandy clay and gravel. In the northeastern part, the substratum is largely fine sandy clay, fine sand, and clay, although a thin layer of heavy clay in places becomes progressively deeper toward the southwest. Beds of gravel occur north of Denham Springs in a belt east of Amite River. The calcareous clay substratum in the western part appears to be largely old Mississippi River sediments with lenses and strata of more friable clay. The sandy clay substratum in the northeastern corner is probably largely coastal-plain material which may be older and more weathered and has resulted in a more sandy soil. Apparently this parish has received sediments from the Mississippi River waters and also from coastal-plain streams. The southeastern part is covered with recent alluvium and some peat and muck.

Silt loams and silty very fine sandy loams have developed on the calcareous heavy materials in the western and southern parts of the parish and fine sandy loams, very fine sandy loams, or sandy clays in the northeastern part.

The subsoils still contain calcium carbonate or free lime at a depth ranging from 5 to 6 feet in most of the western part of the parish, and in places a calcareous subsoil occurs here at a depth of less than 10 inches. The depth to the calcareous substratum in the soils of the northeastern corner is, in most places, 6 feet or more, although the depth differs considerably within short distances. In general, the substratum lies deeper in the best drained areas and at slight depth in the poorly drained areas.

The calcium carbonate has been removed to about the same depth as in the soils on the late Iowan or early Wisconsin glacial drift in sections farther north, but this is not a definite measure of their comparative age. The high precipitation and open winters here accelerate leaching, whereas the heavy character of the clay and the poor drainage retard it.

The Geological Survey[8] includes much of the parish in the Hammond Terrace, considered tentatively as post-Wisconsin. The topsoils of all the soils in the parish are free from rock and gravel. As is generally the case with forested soils in all parts of the world, the soils are typically light colored.

In making a soil survey the soils are identified, mapped, and classified according to certain characteristics. The unit of soil classification is the soil type that is fairly closely defined by a definite profile. A soil profile is a succession of layers, or horizons, from the surface downward, of individual color, texture, structure, and other soil characteristics. The profile of a mature soil of the humid forested regions has three main horizons, or layers, commonly known as the surface soil, subsoil, and substratum, designated by soil scientists as the A, B, and C horizons, each of which may have one or more subhorizons. The A horizon, or topsoil, is the eluviated layer, from which fine material has been removed. In most places, more or less organic material has accumulated on the surface of this horizon, or in the topmost inch or two of soil material. The B horizon is the illuviated layer, in which fine material has been deposited or precipitated. The C horizon is the substratum, or parent material, from which the soil has been developed.

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[8] MATSON, G. C. See footnote 1.

Considered entirely on the basis of their characteristics, the soils of the parish naturally fall into five groups and a number of subgroups having more or less similar characteristics. These groups are as follows: (1) Red and Yellow soils (or soils with friable subsoils) developed under good drainage; (2) podzolic gray soils (or soils with clay subsoils) developed under imperfect drainage; (3) soils with calcareous subsoils close to the surface; (4) soils with poorly developed profiles, owing to poor drainage or recent deposition; and (5) organic soils. This grouping differs from that in the section on Soils and Crops. It is based more strictly on soil characteristics, whereas the previous grouping is based primarily on crop adaptation. These groups of soils occur in indefinite belts, but most of the soils occur in scattered areas, depending largely on local drainage.

The largest areas of soils of the first group are on terraces east of Amite River and on terraces along the other large streams. These soils are developed in areas of good surface drainage and fairly good subsurface drainage. They have brown or grayish-brown A horizons and friable heavier B horizons. The fine materials, especially the sesquioxides, have been removed from the A horizons and largely carried away in the drainage waters. This group of soils is inextensive, but the soils are important from a pedological point of view, because they represent the zonal soils of the region, whereas all the other soils are intrazonal.

The Lintonia, Bienville, and Cahaba soils are included in the first group, and of these, the Lintonia soils may be regarded as representative. Following is a description of a profile of Lintonia very fine sandy loam, as observed in sec. 52, T. 5 S., R. 2 E., about 1¼ miles southwest of Watson.

0 to 1 inch, brown very fine sandy loam containing organic material.

1 to 3 inches, light-brown smooth-textured very fine sandy loam which contains a trace of concretionary material.

3 to 6 inches, pale grayish-yellow rather heavy fine sandy loam containing a trace of rust yellow and gray. The material is slightly compact.

6 to 14 inches, yellow heavy very fine sandy loam or very fine sandy clay, with a trace of gray and a trace of rust-yellow specks. The material is very coherent.

14 to 32 inches, deep reddish-brown heavy clay which breaks into irregular fragments 1½ inches in diameter. A faint irregular variation in color is visible on close inspection, ranging from reddish brown of varying intensity to reddish brown, deep reddish brown, and almost purplish very deep reddish brown. It contains a very faint trace of yellowish brown. Some very fine root hairs are in this horizon.

32 to 56 inches, brownish-yellow very fine sandy clay, with a trace of a reddish-brown variation in color. A trace of gray is present in the fissure planes. The material is friable and crumbles easily.

56 to 86 inches, pale grayish-yellow loose and incoherent sand.

The Bienville and Cahaba soils differ from the Lintonia principally in having more sandy clay subsoils.

The second group includes the predominant soils of the parish, occurring in all parts except in the swamps in the southeastern part. They cover about 59 percent of the total area.

These soils are developed in level areas having imperfect drainage. They are characterized by brown or brownish-gray friable A_1 horizons, rather pale yellow or yellowish-gray friable A_2 horizons, mottled fairly heavy clay or plastic clay B horizons, yellow and gray friable clay C_1 horizons, and yellow calcareous friable clay C_2 horizons, the latter occurring at a depth ranging from 5 to more than 6 feet. Some soils in this group have fairly heavy clay B horizons, and some have plastic clay B horizons.

The Denham, Olivier, Denson, Calhoun, and Hammond soils have moderately heavy subsoils, and the Springfield and Dunbar soils have heavy plastic clay subsoils.

The Denham soils are most representative of the soils with moderately heavy subsoils. Following is a description of a profile of Denham silt loam, as observed in sec. 45, T. 5 S., R. 2 E.:

0 to ¼ inch, brown raw litter or undecomposed organic material mixed with silt loam.[4]

¼ to 1 inch, brownish-gray or nearly white silt loam specked with pale gray. The material has a smooth floury feel and contains some roots.

1 to 8 inches, pale-yellow silt loam specked with light gray and a few specks of rust yellow. The material is smooth and even textured and has a single-grain structure, and it is faintly vesicular, owing to old root holes.

8 to 22 inches, pale-gray silty clay loam conspicuously splotched with yellow and a trace of rust yellow. The material is easily pulverized and turns to a solid pale-yellow color when crushed. It takes a faint polish on a cut surface. The material breaks into blocks an inch in diameter. It contains some root holes.

22 to 26 inches, mottled rust-brown, drab, and yellow heavy plastic clay. Viewed from a distance the soil material has a purple shade. It contains specks of dark-brown incipient concretions, and rust-brown markings occur along the cleavage lines. It breaks into irregular lumps ranging from 1 to 2 inches in diameter. The material in this horizon is very stiff and refractory and bakes hard when dry. It takes a bright polish on a cut surface.

26 to 56 inches, yellow friable clay with a faint trace of gray. Viewed from a distance the material has a very faint variegated pale-yellow and yellow appearance. It contains many soft dark-brown or almost black concretions.

56 to 70 inches, yellow friable very fine sandy clay, with a sprinkling of pale gray. This material contains many dark-brown or black soft concretions one-fourth inch in diameter and some dark material from decayed roots.

70 to 90 inches, friable yellow, pale-gray, and rust-brown clay containing some black material along old root channels.

The Denson soils differ from the Denham soils principally in having a brown A_1 horizon. The Olivier soils differ from the Denham principally in having a pure yellow horizon free from mottling at a depth ranging from about 8 to 12 or more inches. They are better drained than the Denham soils. The Hammond soils differ from the Denham soils in having more sandy topsoils and more friable subsoils. The A and B horizons are more acid, and the depth to the calcareous substratum is greater.

The Springfield soils are representative of the soils with heavy plastic clay subsoils. Following is a detailed description of a profile of Springfield silt loam, as observed in the NW¼ sec. 24, T. 7 S., R. 6 E., 1 mile southwest of Springfield:

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[4] The pH values of this and other soils are given in table 6, p. 33.

0 to 2 inches, brownish-gray smooth silt loam with considerable very fine sand, which contains some grass roots. The structure is single grained.

2 to 6½ inches, light-gray or almost white silt loam with some very fine sand, which contains some specks of rust brown. The structure is single grained.

6½ to 20 inches, mottled brownish-yellow, yellow, and red, with a trace of gray, plastic clay. Viewed from a distance, the material has a reddish-brown or yellowish-brown color. It contains some grass roots but no gravel or concretionary material. This clay is sticky and plastic when wet and very hard and refractory when dry. The red smears over the surface when the material is cut wet. The clay takes a polish on a cut surface. It breaks up in large blocks.

20 to 26 inches, finely mottled yellow and brown friable clay with a touch of gray, which contains faint specks of rust brown and some root hairs. The material becomes more friable with depth.

26 to 32 inches, pale-yellow and grayish-yellow silty clay, in which the mottling is so fine as to be almost imperceptible. The material contains faint specks of dark rust brown, a few fine tubelike holes which make it faintly vesicular, and a trace of root hairs.

32 to 44 inches, yellow and gray calcareous friable silty clay which breaks into blocks and pulverizes easily in the fingers. It contains a few lime concretions.

44 to 78 inches, greenish-yellow silty clay with faint splotches of rust-yellow and pale-gray calcareous clay.

Table 5 shows the results of mechanical analyses of samples of horizons from the profile of Springfield silt loam.

TABLE 5.—*Mechanical analyses of Springfield silt loam*

Sample no.	Description	Fine gravel	Coarse sand	Medium sand	Fine sand	Very fine sand	Silt	Clay
		Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
432515	Surface soil, 0 to 2 inches	2.3	2.4	1.2	2.6	7.0	77.6	7.0
432516	Subsurface soil, 2 to 6½ inches.	.8	.9	.7	1.2	5.5	84.8	6.0
432517	Subsoil, 6½ to 20 inches	.2	.5	.3	.7	2.4	50.6	45.2
432518	Subsoil, 20 to 26 inches	.2	.3	.2	.5	3.6	67.3	28.0
432519	Subsoil, 26 to 32 inches	.1	.2	.2	.5	4.8	70.0	24.3
432520	Subsoil, 32 to 44 inches	.2	.1	.1	.5	5.1	62.4	31.5
432521	Subsoil, 44 to 60 inches	0.	.1	0.	.1	5.0	56.9	37.9
432522	Subsoil, 60 to 78 inches	.1	0.	.1	.3	5.5	56.4	37.5

Dunbar very fine sandy loam resembles Springfield silt loam, but the A horizon is thicker and the soil material throughout the entire profile is more acid.

The soils of the third group occur in small scattered bodies, most of them within an area extending from a point near Springville westward toward Denham Springs. In this whole section the calcareous substratum lies at a comparatively slight depth. Soils with a distinct morphology are developed where the depth to the calcareous material is less than 18 inches. Three soils belonging in different subgroups are represented in this group—Lake Charles silty clay loam, which is a Rendzina; Verdun silt loam, which has a Solonetz structure (pl. 1); and Clio silt loam, a young soil that is structureless or has an incipient Solonetz structure.

Lake Charles silty clay loam has a dark-brown neutral surface layer and a mottled yellow and gray subsoil. It contains a concentration of lime concretions in the upper part of the subsoil. This soil is not forested, as the high lime content inhibits the growth of trees and encourages the growth of grass. The lime has combined with the organic material to form a stable humus that gives a fairly permanent and distinctive dark color to the soil.

The fourth group of soils which have poorly developed profiles includes two subgroups: Soils occupying swales and depressions in the uplands, and alluvial stream-bottom soils. The distinction between the soils of the two subgroups is not sharp, as in this flat area it is difficult to determine where the poorly drained uplands end and the alluvial bottoms begin.

The wet soils of the depressions have not developed definite soil profiles because they are waterlogged most of the year. They are partly covered with a thin dark layer containing much partly disintegrated organic material, overlying a mottled gray slushy surface soil, and a subsoil with no definitely developed soil horizons. Frost silt loam and Portsmouth very fine sandy loam are included in this group.

Frost silt loam has a calcareous substratum at a depth ranging from 4 to 5 feet, that appears to be largely old Mississippi River material. Portsmouth very fine sandy loam typically does not have a calcareous substratum within a depth of 6 feet or more of the surface, and it appears to be largely coastal-plain material.

The alluvial stream-bottom soils include the Vicksburg, Waverly, Sharkey, and Thompson soils and river wash. These soils do not have a well-developed profile, owing to recent deposition, stratification, and poor drainage.

The fifth group of soils—the organic soils—includes Maurepas peat and Barbary muck. Maurepas peat is brown finely comminuted sticky fibrous peat. It appears to be derived largely from cypress, contains much decayed woody material, and a small percentage of mineral material that increases with depth.

Barbary muck is dark-brown peaty muck containing considerable fine silt from flood waters. The parent material appears to be largely cypress, but it is so well disintegrated as to be hard to distinguish.

Table 6 illustrates the reaction profiles of representative soils. The pH values were determined electrometrically (hydrogen electrode), by E. H. Bailey, Bureau of Chemistry and Soils.

TABLE 6.—*pH determinations of several soils from Livingston Parish, La.*

Soil type and sample no.	Depth	pH	Soil type and sample no.	Depth	pH
Springfield silt loam:	*Inches*		Denham silt loam:	*Inches*	
432515	0 - 2	5.2	432545½	0 - ¼	5.2
432516	2 - 6½	4.9	432546	¼ - 1	4.6
432517	6½-20	5.0	432547	1 - 8	4.6
432518	20 -26	7.4	432548	8 -22	4.8
432519	26 -32	8.3	432549	22 -26	5.0
432520	32 -44	8.2	432550	26 -56	5.2
432521	44 -50	8.1	432551	56 -70	5.7
432522	50 -78	7.8	432552	70 -90	6.3

TABLE 6.—*pH determinations of several soils from Livingston Parish, La.*—Con.

Soil type and sample no.	Depth	pH
	Inches	
Lintonia silt loam:		
4325109	0 - 1	6.0
4325110	1 - 3	5.6
4325111	3 -12	6.0
4325112	12 -30	5.3
4325113	30 -48	4.9
4325114	48 -60	4.8
4325115	60 -80	5.0
Verdun silt loam:		
432505	0 - 1	6.1
432506	1 - 5	6.7
432507	5 - 8	6.7
432508	8 -18	8.4
432509	18 -24	9.0
432510	24 -50	8.9
432511	50 -80	8.5
Denson clay loam·		
432528	0 - 3	4.7
432529	3 -10	4.7
432530	10 -18	5.0
432531	18 -30	5.0
432532	30 -37	6.1
432533	37 -50	7.2
432534	50 -80	7.4
Calhoun silt loam:		
432535	0 - ¼	5.5
432536	¼- 5	5.0
432537	5 -23	5.0
432538	23 -38	5.1
432540	40 -46	5.6
432541	46 -58	6.5
432542	58 -75	6.7
Sharkey clay:		
432578	0 - 5	4.5
432579	5 -17	4.5
432580	17 -33	4.5
432581	33 -70	5.4
Frost silt loam:		
432595	0 - 8	5.2
432596	8 -19	4.8
432597	19 -29	4.9
432598	29 -35	5.5
432599	35 -40	5.7
4325100	40 -80	6.4
Clio silt loam:		
4325101	0 - ¾	5.4
4325102	¾- 4	4.8
4325103	4 - 8	4.8
4325104	8 -19	7.9
4325105	19 -25	8.3
4325106	25 -42	7.9
4325107	42 -64	7.9
4325108	68 -86	8.2
Waverly silt loam:		
4325116	0 - 3	4.9
4325117	3 - 8	4.9
4325118	8 -18	4.5
4325110	18 -26	4.5
4325120	26 -42	4.5
4325121	42 -65	4.8
4325122	65 -80	4.8
Denham very fine sandy loam:		
4325123	0 - ⅜	5.3
4325124	⅜- 3	5.3
4325125	3 -12	4.6
4325126	12 -15	5.1
4325127	15 -31	5.1
4325128	31 -43	5.1
4325129	43 -58	5.5
4325130	58 -80	6.0
Denson silt loam:		
4325147	0 - 1	5.5
4325148	1 - 6	5.4
4325149	6 -11	4.8
4325150	11 -19	4.8
4325151	19 -27	4.8
4325152	27 -46	5.0
4325153	46 -54	5.0
4325154	54 -75	5.9
Hammond very fine sandy loam:		
4325225	0 - 1	5.3
4325226	1 - 2½	5.1
4325227	2½- 7	5.1
4325228	7 -12	5.3
4325229	12 -38	5.3
4325230	38 -44	5.2
4325231	44 -78	6.4
4325232	78 -90	6.2

SUMMARY

Livingston Parish is near the center of the southeastern part of Louisiana, between Baton Rouge and New Orleans. It covers an area of 642 square miles.

The land in the northeastern corner comprises a nearly level slightly sandy plain, most of which is covered with loblolly pine and some longleaf pine. The benchlike areas near streams have good drainage, but flat wet areas occur at a distance from the larger streams. The central and western parts are largely a flat silty imperfectly drained old Mississippi River terrace covered with hardwoods and pine. Lake Maurepas Swamp covers the southeastern part, and fingers of swamp extend up all the stream bottoms.

The earliest settlements were made by Acadians about 1750. The land was acquired from Spain in 1810 and was recognized as a parish in 1832.

The main roads are surfaced highways, and the secondary roads are partly improved, but large areas have no roads.

The climate is warm and moist. The average frost-free season extends over a period of 249 days. The annual precipitation ranges from about 42 to 82 inches, with a mean of about 58 inches.

Most of the virgin timber has been cut, but a good stand of young second-growth timber now covers most of the land. Only about 5.3 percent of the area of the parish is cultivated, according to census figures for 1930.

Strawberries are the most important cash crop, followed by sweetpotatoes, cotton, and truck crops. The largest acreage is devoted to corn which, together with other forage crops, is grown for local consumption.

Silt loam soils predominate in the western and central parts of the parish and very fine sandy loams in the northeastern part. Peat and muck soils cover 71.6 square miles near Lake Maurepas. The alluvial soils are mainly silt loams along the smaller stream bottoms and clays in the southern part of the parish.

The Denham soils are the most extensive. They are especially well adapted to strawberries. They have brownish-gray surface layers, mottled yellow subsurface layers, mottled yellow and gray heavy clay subsoils, and yellow calcareous friable clay substrata. Drainage is imperfect. The Olivier soils are somewhat better drained and more yellow. The Calhoun soils are more poorly drained and are grayer. The Hammond soils are more sandy and more acid. The Dunbar soils are more sandy, better drained, and more yellow.

The Lintonia, Bienville, Cahaba, and Denson soils all have brown surface soils. They are among the most productive soils in the parish and are well adapted to truck crops and corn. The Lintonia soils have yellowish-red friable clay subsoils and a calcareous substratum; the Bienville soils have yellowish-red sandy clay subsoils; and the Denson soils have mottled yellow heavy clay subsoils.

The Clio, Lake Charles, and Verdun soils have calcareous subsoils containing many lime concretions which come close to the surface. The Clio soils have brownish-yellow friable surface soils. They are very fertile and especially well adapted to corn. The Verdun soils have gray topsoils and a thin sticky clay claypan layer. The Lake Charles soils have dark-brown surface soils. The Verdun and Lake Charles soils are not cultivated at present.

The Calhoun and Plummer soils have gray surface soils and mottled gray and yellow subsoils. They are poorly drained and of low agricultural value. The Frost soil has a gray surface soil and a gray slushy clay subsoil. The Portsmouth soil has a dark-brown surface soil and a gray slushy subsoil. The last two soils are too wet to farm.

The Vicksburg, Waverly, Sharkey, and Thompson soils are alluvial bottom soils subject to flooding. Some of the better drained areas of the Vicksburg soils are cultivated and are fairly productive where protected from flooding.

Maurepas peat and Barbary muck are wet swampy organic soils.

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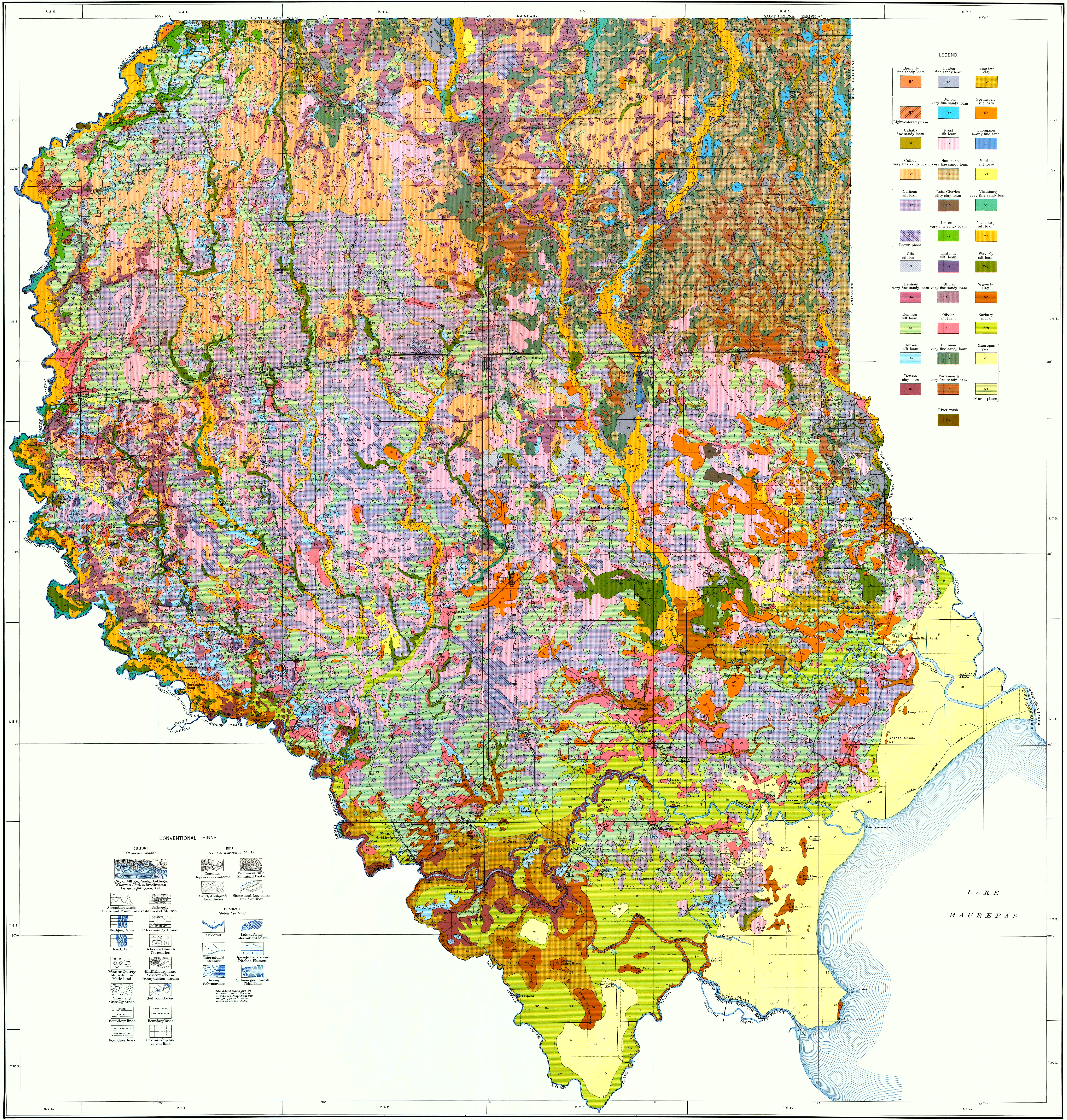
U. S. DEPARTMENT OF AGRICULTURE
BUREAU OF CHEMISTRY AND SOILS
HENRY G. KNIGHT, CHIEF
CHARLES E. KELLOGG, IN CHARGE SOIL SURVEY

SOIL MAP
LIVINGSTON PARISH
LOUISIANA

LOUISIANA AGRICULTURAL EXPERIMENT STATION
C. T. DOWELL, DIRECTOR


LEGEND
Bienville fine sandy loam — Bf
Bf — Light-colored phase
Dunbar fine sandy loam — Df
Dunbar very fine sandy loam — Dv
Sharkey clay — Sc
Springfield silt loam — Ss
Cahaba fine sandy loam — Cf
Frost silt loam — Fs
Thompson loamy fine sand — Tl
Calhoun very fine sandy loam — Cv
Hammond very fine sandy loam — Hv
Verdun silt loam — Vl
Calhoun silt loam — Cs
Cs — Brown phase
Lake Charles silty clay loam — Lc
Lintonia very fine sandy loam — Lv
Vicksburg very fine sandy loam — Vf
Vicksburg silt loam — Vs
Clio silt loam — Cl
Lintonia silt loam — Ls
Waverly silt loam — Ws
Denham very fine sandy loam — De
Olivier very fine sandy loam — Ov
Waverly clay — Wc
Denham silt loam — Dl
Olivier silt loam — Ol
Barbary muck — Bm
Denson silt loam — Ds
Plummer very fine sandy loam — Pv
Maurepas peat — Mt
Denson clay loam — Dc
Portsmouth very fine sandy loam — Po
Mt — Marsh phase
River wash — Rv
CONVENTIONAL SIGNS
CULTURE
(Printed in black)
City or Village, Roads, Buildings, Wharves, Jetties, Breakwater, Levee, Lighthouse, Fort.
Secondary roads Trails and Power Lines
Railroads Steam and Electric
DOUBLE TRACK
SINGLE TRACK
JUXTAPOSITION IN ROAD
Bridges, Ferry
R.R.crossings, Tunnel
R.R. ABOVE
R.R. BELOW
Ford, Dam
School or Church Cemeteries
CEM.
Mine or Quarry Mine dumps Made land
Bluff, Escarpment, Rock outcrop and Triangulation station
Stony and Gravelly areas
Soil boundaries
STATE
COUNTY
Boundary lines
LAND GRANT
CITY OR VILLAGE
Boundary lines
CIVIL TOWNSHIP
RESERVATION
Boundary lines
U. S. township and section lines
RELIEF
(Printed in brown or black)
Contours Depression contours
Prominent Hills Mountain Peaks
Sand, Wash, and Sand dunes
Shore and Low-water line, Sandbar
DRAINAGE
(Printed in blue)
Streams
Lakes, Ponds, Intermittent lakes
Intermittent streams
Springs, Canals and Ditches, Flumes
Swamp Salt marshes
Submerged marsh Tidal flats
The above signs are in current use on the soil maps. Variations from this usage appear in some maps of earlier dates.
R. 2 E.
R. 3 E.
R. 4 E.
R. 5 E.
R. 6 E.
R. 7 E.
T. 5 S.
T. 6 S.
T. 7 S.
T. 8 S.
T. 9 S.
T. 10 S.
90°55′
50′
45′
40′
35′
90°30′
SAINT HELENA PARISH
LIVINGSTON PARISH
BOUNDARY
TANGIPAHOA PARISH
EAST BATON ROUGE PARISH
ASCENSION PARISH
ST. JOHN THE BAPTIST PARISH
AMITE RIVER
TICKFAW RIVER
NATALBANY RIVER
BAYOU MANCHAC
BLIND RIVER
Livingston
Denham Springs
Springfield
French Settlement
Head of Island
Maurepas
Killian
LAKE MAUREPAS

Mark Baldwin, Inspector, District 1.
Soils surveyed by A. C. Anderson, in charge, E. B. Deeter, S. Rankin Bacon, W. H. Buckhannan, C. S. Simmons, K. V. Goodman, R. R. Finley, and B. H. Hendrickson.

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1 ½ 0 1 2 3 4 Miles
1 ½ 0 1 2 3 4 5 Kilometers

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